DEPOSITORY — Royal —

SHL
WITHDRAWN

UNIVERSITY OF LONDON
LIBRARY

LONDON:

PRINTED BY PHIPPS AND CONNOR, TOTHILL STREET,

WESTMINSTER, S.W.

CONTENTS.

Page.		No. of Paper.	Author of Paper.	Date.
i.	Title-page of Vol. XVI.			
v.	List of Officers for Session 1883-84			
vi.	Objects, &c., of the Institution.			1883.
1	Opening Address as President .	116	T. Smith Woolley	Nov. 12
23	The Agricultural Holdings Act, 1883.	117	J. W. Willis Bund	Dec. 3
57	Discussion on Mr. J. W. Willis Bund's Paper			Dec. 17
				1884.
85	Adiourned Discussion on ditto.			Jan. 14
117	Building Risks and their Incidence	118	T. M. Rickman	Jan. 28
151	Discussion on Mr. T. M. Rickman's Paper			Feb. 11
191	Agrimensores.	119	R. Woolley . .	Feb. 25
231	The Construction and Maintenance of Country Roads .	120	A. J. Burrows .	Mar. 10
275	Ancient Terms Applicable to the Measurement of Land . .	121	W. Fowler . .	Mar. 24
317	Improved Dwellings for Labourers and Artisans . . .	122	T. C. Clarke .	April 21
349	Discussion on Mr. T. C. Clarke's Paper			May 5
375	Inclosure and Regulation of Commons	123	H. H. Smith .	May 19
411	Annual General Meeting and Election of Officers for 1884-85.			
412	Presentation of Prizes.			
414	Report of Council.			
422	Statement of Receipts and Expenditure, 1883.			
424	Memoir of V. Buckland.			
426	,, S. Crowther.			
427	,, J. Harvey.			
428	,, S. Humbert.			
429	,, J. Lavender.			
,,	,, J. Mathews.			
433	,, E. W. Moore.			
,,	,, W. B. Prickett.			
434	,, G. Rawlence.			
435	,, E. Robins.			
436	List of Donations and Contributions.			
439	List of Members.			

NOTICE.

This Institution does not, as a body, hold itself responsible for statements made or opinions expressed, either in the Papers read or in the discussions which have occurred, at the Meetings.

The Surveyors' Institution

(Incorporated by Royal Charter),

12, GREAT GEORGE STREET,

WESTMINSTER, S.W.

OFFICERS, 1883-84.

COUNCIL.

President.

THOMAS SMITH WOOLLEY

Vice-Presidents.

EDWARD I'ANSON
WILLIAM JAMES BEADEL
ELIAS PITTS SQUAREY
ROBERT COLLIER DRIVER

Members of Council.

FRANCIS VIGERS
CHARLES JOHN SHOPPEE
THOMAS CHATFEILD CLARKE
DANIEL WATNEY
JAMES MARTIN
WILLIAM FOWLER
HENRY JAMES CASTLE
ROBERT LAKE COBB
ALEXANDER MILNE DUNLOP
CHRISTOPHER OAKLEY
ROBERT VIGERS

Professional Associate of Council.

HON. CECIL THOMAS PARKER

Associates of Council.

FREDERICK MEADOWS WHITE, Q.C.
SIR FREDERICK JOSEPH BRAMWELL, F.R.S.

Past-Presidents.

JOHN CLUTTON
EDWARD NORTON CLIFTON
THOMAS HUSKINSON
WILLIAM STURGE
EDWARD RYDE

Honorary Secretary.

JOHN WORNHAM PENFOLD

Secretary.

JULIAN C. ROGERS

The Surveyors' Institution

(Incorporated by Royal Charter)

Is established—

1. To secure the advancement and facilitate the acquisition of that knowledge which constitutes the profession of a Surveyor, viz.—the art of determining the value of all descriptions of landed and house property, and of the various interests therein; the practice of managing and developing estates; and the science of admeasuring and delineating the physical features of the earth, and of measuring and estimating artificers' work.

2. To promote the general interests of the profession, and to maintain and extend its usefulness for the public advantage.

The Institution consists of four classes, viz.—Fellows, Professional Associates, Associates, and Honorary Members, with a class of Students attached.

A Fellow must be more than twenty-five years of age, and must have acquired a practical knowledge of surveying in one or other of its branches as above defined; he must have so practised on his own account for more than five years; or must be a member of a firm of Surveyors established upwards of ten years; or in partnership with a Surveyor of ten years' standing;* or he must have passed the Voluntary Examination declared in the Rules of Examination to appertain to the class of Fellows. Fellows have the right to use the letters F.S.I. after their names.

A Professional Associate must be more than twenty-one years of age, a Surveyor by profession, in practice on his own account or employed as an Assistant in a Surveyor's Office and qualified for the class by having passed the Students' Proficiency Examination, or the Professional Associates' Qualifying Examination. Professional Associates have the right to use the letters P.A.S.I. after their names.

**These qualifications hold good until the provisions of the Charter relating to the Compulsory Examinations for Fellows come into force.*

An Associate must be more than twenty-one years of age, not a Surveyor by profession, but his pursuits must be such as to qualify him to concur with Surveyors in the advancement of professional knowledge.

An Honorary Member must be a person who, either by reason of his position or experience, or his eminence in science, may be enabled to render assistance in promoting the objects of the Institution, but who is not engaged in practice as a Surveyor in Great Britain or Ireland. He has the privilege of being present and taking part at all Ordinary General Meetings, and of access to the Library, but no right of voting, discussing, or otherwise interfering in the affairs of the Institution; nor is he called on to contribute to its funds.

Students (who must not be under eighteen years of age) qualify as such by passing the Students' Preliminary Examination. Candidates for Studentship who can produce a Certificate of having passed the Matriculation Examination of the University of Oxford, Cambridge, London, or any other University in the United Kingdom, or who have passed, with Honours, the Senior Local Examination of the University of Oxford or Cambridge, are exempted from this Examination, and may be admitted by the Council on the recommendation (according to a form) of four Fellows and two Associates, or of the Fellow or Associate to whom they are or have been articled; but it is obligatory on all Students to undergo the Proficiency Examination at the close of their Student course, at the time and under the conditions applying in each particular case under the Rules of Examination.

The Council may accord to Students such privileges, subject to such terms, regulations, and restrictions, as they shall from time to time prescribe.

Any person desirous of being admitted into the Institution (excepting to the class of Students) must be proposed and recommended according to a form, in which the full name, place of business (if any), usual residence, and qualifications of the candidate must be distinctly specified. This form must be subscribed by him, and signed by at least six Fellows or four Fellows and two Associates, certifying a personal knowledge of the candidate; or, in the case of a person who has passed the Qualifying Examination, by four Members of the Council,

of whom the President shall be one, after careful enquiry into the antecedents of the applicant.

The proposal so made, being delivered to the Secretary, will be submitted to the Council, who, on approving the qualifications will determine the class for which the candidate is to be presented for ballot at an Ordinary General Meeting.

The following are the rates of contribution to the funds :—

	Annual Subscription. £	s.	d.	Admission Fee. £	s.	d.
Student . . .	1	1	0	—		
Associate . . .	2	2	0	3	3	0
Professional Associate	2	2	0	3	3	0
Fellow . . .	3	3	0	5	5	0

No person can become a Member (other than an Honorary Member) of the Institution, unless and until he pays as his first Subscription to the Institution, in the case of becoming a Fellow of the Institution, the sum of Eight Guineas, in the case of becoming a Professional Associate of the Institution, the sum of Five Guineas, and in the case of becoming an Associate of the Institution, the sum of Five Guineas.

All Fellows, Professional Associates, and Associates, are required, within twelve months after their election, to deliver to the Council an original Paper on some subject connected with the profession, or to make a donation to the Library or Collection.

The affairs of the Institution are under the management of a Council, which is elected annually, consisting of a President, four Vice-Presidents, eleven Fellows, one Professional Associate, and two Associates.

The Session of the Institution commences annually on the second Monday in November, and continues to the end of May. The Ordinary General Meetings are held on every alternate Monday during the Session. At these Meetings original communications are read on some professional subject, and their merits fully and freely discussed. Every Member has the privilege of introducing one visitor to these Meetings. Members are entitled to a copy of any printed publication issued by the Institution after their admission.

S. I.
9

83-84

The Surveyors' Institution.

(INCORPORATED BY ROYAL CHARTER.)

12, GREAT GEORGE STREET,
WESTMINSTER, S.W.

At the Ordinary General Meeting, held on Monday, March 10th, the following names were read and passed to be balloted for on April 21st, 1884:—

AS FELLOWS—

Richard Armistead	118, Main Street, Bingley.
William John Bower	6, St. James Street, Derby.
Chester Cheston, Jun.	1, Great Winchester Street, E.C.
Charles Fitzroy Doll	64, Cannon Street, E.C.
Charles Henry Inge	Broom Leasoe, Wittington, Lichfield.
John Looker	High Street, Huntingdon.
George Huntley Read	27, Albany Street, N.W.
Robert Troutbeck	Maidstone, Kent.
Charles Edward Waring	12, St. John's Square, Cardiff.

AS PROFESSIONAL ASSOCIATES—

Flint Browne	91, Queen Street, Cheapside, E.C.
John George Lightfoot	9, Whitehall Place, S.W.
Peter Service McCallum	Land Agent's Office, Midland Railway, Derby.
James Merrett	9, Whitehall Place, S.W.
Frederick William Pearce	9, Whitehall Place, S.W.
Samuel Brown Saunders	3, Vine Terrace, York Road, S.E.
Philip Christopher Sayers	11, Queen Victoria Street, E.C.
Henry Scarlett	Downland, Uckfield Sussex.
Nathaniel Sherry	The Green, West Hampstead, N.W.
George Alexander Winder	Escot Estate Office, Fairmile, Ottery St. Mary.
Henry Clement Wood	1, Great James Street, Bedford Row, W.C.
Benjamin John Wyand	11, Queen Victoria Street, E.C.

AS ASSOCIATE—

Richard Reader Harris	1, Temple Gardens, Temple.

It was announced that the provisions of By-Law 15 having been complied with the Council had transferred the following gentleman from the class of Professional Associates to that of Fellows of the Institution, viz.:—

Robert Anderson, Jun.	25, Bedford Row, W.C.

The following Donations to the Library Fund were announced:—

	£	s.	d.
T. Benson	2	2	0
R. E. Couchman	2	2	0
J. F. Field	1	1	0
J. Grant	2	2	0
H. M. Grellier	2	2	0
H. Heard	2	2	0
E. J. Howell	2	2	0
S. W. Newsam	2	2	0

F. H. B. Riddle	£2	2	0
G. Taylor	3	3	0
J. Waterman	3	3	0

A vote of thanks was unanimously passed to the Donors.

A Paper was read by Mr. A. J. Burrows (Fellow), entitled "The Construction and Maintenance of Country Roads." A Discussion ensued, and a vote of thanks was unanimously passed to Mr. Burrows for his Paper.

The following Candidates were balloted for and declared duly elected:—

As Fellows—

William Freeth Dennant	63, Queen Victoria Street, E.C.
Henry Pafoot Foster	5, John Street, Adelphi, W.C.
James Hudson	Monkwray, Whitehaven.
Herbert Morris	Lewes, Sussex.
Henry James Wyley	Bridgnorth, Shropshire.

As Professional Associates—

William Richard Chester	3, St. Helen's Place, E.C.
William Edward Clifton	7, East India Avenue, E.C.
John Francis Fitness	80, Cheapside, E.C.
Thomas Alfred Fuller	The College, All Saints', Derby.
Alfred King	15, Chalcot Crescent, Regent's Park, N.W.
Robert John Low	Cumberland Road, St. Albans, Herts.
Thomas Walter Moss	21, Doughty Street, W.C.
Edward James Norris	9, Whitehall Place, S.W.
George Cawkwell Phillips	Mildmay Road, Chelmsford, Essex.
Edward Joseph Rose	48, Broad Street, Oxford.
John Alfred Trumper	9, Whitehall Place, S.W.
John Yeates	80, Cheapside, E.C.

The next Meeting will be held on Monday, March 24th, when a Paper will be read by Mr. W. Fowler (Fellow), on "The Ancient Terms applicable to the Measurement of Land." The Chair to be taken at Eight o'clock.

The following applications for membership have been received, and will come before the Council at their next meeting:—

Edmund Beck	Sandringham, Norfolk.
Walter Bird	61, Edgware Road, Paddington.
Herbert Arthur Scawen Blunt	Firle, Lewes, Sussex.
Frederick George Bond	Old Bank House, Ipswich.
Josiah Butterworth	Mansfield, Notts.
William Pashley Gibb	36, Chancery Lane, W.C.
Thomas Ashey Horace Hamond	56, Lincoln's Inn Fields, W.C.
Frederick Dean Holiday	Bicester, Oxfordshire.
Bryan Walter l'Anson	20, Irish Street, Whitehaven, Cumberland.
Gilbert Keeling	2, Tokenhouse Buildings, Lothbury, E.C.
Francis Le Rossignol	1, Gresham Buildings, Basinghall Street, E.C.
Henry Fairlam Lofts	130, Mount Street, W.
William Murray	81, Wood Lane, Shepherd's Bush, W.
William John Home Mylne	105, Earl's Court Road, Kensington, W.
Walter Edwards Parish	23, St. Swithin's Lane, E.C.
Edward Hayton Paxton	Bicester, Oxfordshire.
William John Pearce	4, Frederick's Place, E.C.
Thomas William Price	75, Kent House Road, Sydenham, S.E.
Augustus Charles Udny	35, Duke Street, Brighton.
William Howley Wells	Estate Office, Evershot, Dorset.
William Wiles	1, Great Winchester Street, E.C.

STUDENTS' CERTIFICATES.

Those who passed the recent Preliminary Examination may obtain their Certificates as Students by applying personally or by deputy at the Institution.

It is particularly requested that Members who have not already signed the Register, will take the opportunity of doing so when they happen to be at the Institution or in its neighbourhood. New members are required by the By-Laws to sign the Register at the first Ordinary General Meeting at which they are present after their election.

PROFESSIONAL EXAMINATIONS, 1884.

Notice is given that the Examination in all the Sub-Divisions of Divisions II. and III. will commence at the Institution on Monday, March 31st, at 10 a.m.; in Division IV., Sub-Divisions I. and III., on Wednesday, April 2nd, at 4.30 p.m.; in Division IV., Sub-Division II., and in all the Sub-Divisions of Division V., on Tuesday, April 1st, at 10 a.m.

It is requested that the names of any proposed for election may be forwarded without delay, to the Secretary, from whom Forms of Application may be obtained.

Back Volumes of the "Transactions," complete, in cloth boards, lettered, may be obtained at the following prices:—

Vol. I. 9*s.*; Vol. II. 10*s.*; Vol. III. 11*s.*; Vol. IV. 9*s.*; Vol. V. 11*s.*; Vol. VI. 10*s.* 6*d.*; Vol. VII. 10*s.*; Vol. VIII. 12*s.*; Vol. IX. 10*s.*; Vol. X. 12*s.*; Vol. XI. 14*s.*; Vol. XII. 11*s.* 6*d.*; Vol. XIII. 13*s.* 6*d.*; Vol. XIV. 11*s.*; Vol. XV. 14*s.*

J. W. PENFOLD, *Hon. Secretary.*
J. C. ROGERS, *Secretary.*

Members are specially reminded that Subscriptions were due in advance, on the 1st January, 1884. Attention is called to the subjoined extracts from the By-Laws:—

EXTRACTS FROM BY-LAWS.

Diploma-Certificates.

20. Every Fellow or Professional Associate shall, upon payment of the first annual subscription due from him under these By-Laws, or within a reasonable time thereafter, receive a Diploma-Certificate of Membership in respect of the year or portion of a year to which the said first subscription applies, and shall, so long as he continues to practise as a Surveyor and remains a member of the Institution, be entitled to hold the said Diploma-Certificate, *subject to an annual notification of its renewal by the Council*, for each subsequent financial year, *upon payment in advance of his subscription in respect of that year.*

21. Every Diploma-Certificate issued to a Fellow or Professional Associate shall be in such form as the Council may from time to time determine, and shall be the property of the Institution, and in the event of cesser of Membership from any of the causes set forth in the By-Laws, shall be returned to the Council, and shall be recoverable on demand.

Paper 116.
No. 200.

THE OPENING ADDRESS

BY

THOMAS SMITH WOOLLEY, President,

AT THE ORDINARY GENERAL MEETING OF

THE SURVEYORS' INSTITUTION,

November 12th, 1883.

Highly as I value the honourable position in which you have placed me, I may well be excused if I entertain serious doubts of my ability to discharge worthily the duties attached to it; indeed, I must ask you to accept beforehand my apology for manifold shortcomings; pledging myself that they shall not arise from carelessness, or from want of interest in my profession, or in the welfare of the Institution, or any other cause within my own control.

Before dealing with more general topics, it is proper that I should advert to the remarkable increase in the number of applications for admission to the Institution since the grant of the Royal Charter; and I shall venture to suggest to those Members who have been recently elected, that they have undertaken responsibilities, as well as acquired privileges; responsibilities which can only be duly fulfilled by a settled resolution so to discharge their professional duties, as to raise, each, as far as in him lies, the general status of the profession; not socially only, but with reference to the highest standards of integrity and honour.

This consideration has been enforced from time to time with great emphasis by my predecessors in this Chair; and my settled belief is that the Institution has not only wrought

very great good in that respect already, but that future progress in the same direction may be looked for very confidently.

So far as social standing is concerned, it is hardly likely that any of us can attain to the distinction enjoyed by one of our Roman predecessors, FRONTINUS, who was Governor of Britain in the first century under the Emperor VESPASIAN, and who distinguished himself by his successful campaign against the tribes on the borders of Wales, no less than by his engineering works, and his treatises on Surveying, and other questions connected with Landed Property. Of these writings several fragments are still extant, and you will, I hope, in the course of the present Session, have the opportunity to judge from some of them how far he was practically acquainted with his profession.

Although such social elevation is not open to us, we may, I trust, look forward to a time when the fact of Membership shall be a guarantee, not of professional efficiency only, but of a high sense of personal honour, with the distaste engendered by it for indirect dealing, or sharp practice, or vulgar touting, or professional jealousy,—a condition of mind quite distinct from that worthy spirit of emulation, without which no man is properly equipped for the battle of life. So much for the general objects of the Institution, which suggested themselves to me, as to others, on its first establishment, and my sense of the importance of which has since strengthened year by year.

Turning now to some of the particular topics which have special claims upon our notice, the first in immediate interest and importance is the Agricultural Holdings Act of last Session.

It is by no means my intention, however, to attempt to deal exhaustively with the subject on this occasion. Even if it was within my competence to do so, I should think it

better to await the formal discussion upon it which will shortly take place.

It must be admitted, I think—even by those of us who either held that no legislation was required, or, if they considered it in any degree necessary, had a dread of its being undertaken by the authors of the Irish Land Act,—that the Act is, in its main features, not unreasonable. In any case, it is incumbent upon us to do our best to give fair and full effect to its provisions.

Apart from the points of doubtful construction, and the grievous absence of guarantees against fraudulent claims for imaginary improvements which characterise it, I do not myself anticipate that any cases of serious difficulty or very great injustice will arise under it, except in relation to the question—what proportion of any given amount of improved value is due to the intrinsic or inherent qualities of the soil. I say frankly that, notwithstanding the experience I have acquired during the assiduous practice of my profession for well-nigh half a century, I distrust my own power of determining it with anything like perfect certainty. This would be true even in cases in which the amount of the improved value had been approximately ascertained; that problem itself being absolutely incapable of solution, except on the impossible assumption that every one concerned approached the consideration of it with full knowledge of the facts and perfect freedom from bias, to say nothing of dishonest intentions.

Having spoken with such candour of my own shortcomings, I venture to express, with equal plainness of speech, my absolute conviction that most of the existing class of Tenant-right Valuers, by whom those questions will presumably have to be dealt with, are at least as ill-qualified to deal fairly with them. Nevertheless by the time that tenant's improvements, of a spontaneous and unrequited

kind, have become common—and without under-valuing a class in whom I feel the strongest personal, and indeed hereditary, interest, I say they have not been so hitherto—some more or less satisfactory rules of practice will probably have been pretty generally accepted.

I venture to contribute a suggestion towards this end, by considering a hypothetical case, which I find ready to my hand in the following extract from an article by Mr. Barclay, M.P., on "The Grievances of Farmers," in the *Nineteenth Century* of February 1882:—

"A newly-married powerful young man rented, or possibly built, a humble cottage of two rooms—'a but and a ben,' as it is called—on the edge of a moor, with probably an acre or two of arable land. The moor provided scanty enough grazing for a cow, to which the wife attended, while the husband worked by day on a neighbouring farm, and in his evenings and spare hours employed himself in laboriously converting, yard by yard, almost foot by foot, the stubborn glebe into corn-growing land." (I fear Mr. Barclay has misapprehended Gray's "Elegy," and forgotten Milton's "Fertile of corn the glebe.") "No one knew the labour he expended, or reckoned the hours of 'early morn or dewy eve' devoted to the toil; but the heaps of boulders exposed in the process, and which still encumber the margins of the fields, attest the severity and magnitude of the labour. Years passed away,—it may be ten or fifteen,—and the rough inhospitable moorland bears fair crops of the hardy oat, turnips, and grass. But the man himself bears evidence of the cost of the transformation. The labour outside his little croft to maintain himself and his family, added to the work of reclamation, has told on his once powerful frame, and the force of his strength is well-nigh spent. To the wife, the faithful partner of her husband's labour, life

" has been far from easy. She has not only done her part,
" by a frugality and self-denial verging on the habits of the
" miser, to maintain a home and bring up her children, but
" out-of-doors has, in seedtime and harvest, taken part in
" the labour of the farm. Toil and care so hard and
" unremitting have bent the once elastic frame, and
" withered the early comeliness of cheek. The worthy
" couple might justly hope that so many years of hard and
" increasing industry would secure for them some relaxation
" in their declining years. But no. The nineteen years of
" the croft is about to expire. The holding for which £5
" of rent was paid, probably twice as much as it was fairly
" worth when the tenant entered, will now fetch £20 in the
" market, and the temptation is too strong for the landlord.
" The tenant seems to him, looking at the holding in its
" present state, to have the place too cheap. He knows
" little of what has been done to make the rent seem low.
" Perhaps he does not want to know. He may even con-
" sider himself generous in offering a renewal of the lease
" at the price he can get from a new comer. The hard-
" worked couple know that the new rent will entail a
" continuance of their drudgery with possibly the same fate
" to their children. The savings of their prime, sunk in the
" improvement of their croft, have been swallowed up.
" They must submit or go. There is no alternative and no
" redress. More than half worn out they must begin the
" world anew, and thankful if they have children to help
" them, they struggle on."

Translated out of poetic diction into plain English, the above extract sets out the case of a man who, during his evenings and spare hours has brought into cultivation a certain portion of moorland; so raising the yearly rental value of his holding in the course of 10 or 15 years from £5 to £20. His wife has attended to the cow, and has

taken part in the farm work in seedtime and harvest; but it does not appear that she individually contributed in any degree to the improved value of the holding, that being due wholly to the labour of the man during his spare time; the phrase "savings of their prime" presumably refers to money realised from the holding. The savings of their youth, which would, no doubt, be laid out on their entry in furnishing the cottage and the purchase of implements as well as the cow and pig, would be returned to them with interest at the end of the term in the shape of increased quantity and value of stock, implements, and tenant-right.

Allowing for the winter months—the "early morns and dewy eves" of which are hardly available for out-door work,—for Sundays and other non-working days, as well as for harvest and other seasons, during which he could have no leisure, an average of three hours per day for 200 days every year must certainly be a very liberal estimate of that proportion of the man's labouring hours which were not occupied either in working elsewhere for wages or in ordinary acts of husbandry for himself. Appraising the value of this labour—equal to 60 days of 10 hours each—at 3*s.* 6*d.* a day, the aggregate yearly value is £10 10*s.*, which, accumulated for 15 years, allowing interest at 5 per cent.—an extravagantly favourable assumption for the tenant,—amounts to about £226. But, according to the hypothesis, the total increase in the value of the holding during the 15 years is £450. Thus:—

Improved yearly value, £20, at 30 years' purchase	£600
Original value, £5, at 30 years' purchase .	150
	£450

To whom belongs the difference between this sum of £450 and the £226 above set out, which is assuredly a very

liberal computation of the tenant's contribution towards it? obviously to the landowner; because the dormant value, or capability of development, is his; both as a matter of abstract right, and according to the provisions of the Act: being "justly due to the inherent capabilities of the soil."

In the foregoing calculation, no account is taken of the benefit which the tenant derived from the cultivation of the holding during his fifteen years' tenancy, because that would not be in accordance with the principles of the Act.

It may perhaps be taken to indicate, as a rough-and-ready general rule, to be modified according to circumstances, that of any capital sum, representing the increased value to the incoming tenant, accruing from, or, to speak accurately, developed by, the outgoing tenant's outlay, about half should be held to belong to the latter, and half to the landowner.

One incident in the progress of the Bill through the Upper House—the reference to this Institution in the matter of the appointment of umpires—was no doubt gratifying to its Members from the indirect testimony it afforded to the position of their Society, especially as it did not in any way originate with the Institution. For my own part, however, I regarded its abandonment with equanimity. Having been familiar, in a greater or less degree, with the practice of the Land Commissioners and their predecessors for more than forty years, I can bear witness that no trace of partisan bias has been discernible in any of their acts as a Commission, and we may certainly infer in this case that the practice of the future will not belie the traditions of the past.

One great benefit has, in my opinion, resulted from the discussion on the Bill; it afforded clear evidence that the doctrines of the promoters of the so-called "Farmers' Alliance," whose high personal respectability is, unfortunately, compatible with a considerable amount of malevolence,

and more or less unconscious misrepresentation, have taken far less hold on the public mind than might have been expected from the industry and plausibility with which they have been enforced. There is certainly no wish on the part of the average British farmer of to-day to "abolish landlordism," and Mr. Barclay's opinion, "that a just appreciation of the true rights of property would probably give revolution rather than reform," would be earnestly repudiated by the class which the "Alliance" affects to represent.

This, however, is not a fit occasion for dealing in detail with the subject, and I only allude to it now for the purpose of congratulating you on the comparative failure of a systematic attempt to sow discord between the two classes, in whose joint welfare we are specially interested—the landowners and the tenant-farmers of Great Britain.

Turning to recent legislation in another direction, it is already clear that the powers of sale conferred by the Settled Land Act, 1882, will have important practical issues so soon as the future conditions of agriculture can be more clearly foreseen, and capitalists are in a position to judge what returns may confidently be reckoned upon from investments in land. Until that is more accurately determined, we shall probably look in vain for any great increase in the demand for land, and the market will be filled, as at present, with anxious owners, of whose offers to sell no heed is taken by capitalists. To such an extent is this the case that those writers and speakers who have, hitherto, been accustomed to attribute most of our social troubles to the effect of the right of primogeniture, and the law of entail in "locking up" the land, are probably becoming somewhat less confident of the soundness of their opinions.

Apart from the present uncertainty as to the financial result of investment in land, however, it is obvious that

many things have tended of late years to obliterate, or greatly diminish, those extra elements of value which heretofore led investors in land to be content with a return of 2 or 3 per cent. in actual money value—that is to say, the sporting and other incidental contributions to personal enjoyment and influence, as well as the sense of security and independence which formerly attached to the ownership of landed estates.

If, however, we may leave out of consideration the ominous attacks, hereinafter referred to, on the rights of property recognised under our present social system, it is certain that land in Great Britain will, after a longer or shorter interval, reassume in a great measure its attractiveness to the capitalist. Indeed, except the cold heavy-working clay lands paying rent in former years of from 16*s.* to 25*s.* per acre, the value of which in the immediate future I regard as in many cases almost nominal, and in all as less by 40 or 50 per cent. than heretofore; excepting also the more free-working clays and clay-loams, of the former rental value of 25*s.* to 35*s.* per acre, which are depreciated to the extent of 30 per cent. and upwards,—I think we may expect that in the course of the next 8 or 10 years land will, on the average, revert to within 10 or 12 per cent. of its former value for sale or rental. This opinion, however, though I hold it pretty confidently, must not be taken for more than it is worth: it is based on my own deductions from my personal experience only, and I cannot adduce any formal data in support of it.

Reverting to the subject of recent attacks on the rights of property, which are of special interest to us, because they are directed primarily against landowners; although all other kinds of property will, unquestionably, be in imminent jeopardy, if this first line of defence is carried. Some of you may have been startled by the plainness of the acknow-

ledgment made to the Trades Unions, at their recent conference at Nottingham, by Colonel SEELY, one of the members for the borough, that they have power to take the land if they determine to do so. Whatever may be thought of the opportuneness of the announcement, however, most of these who are accustomed to look beneath the surface of things will agree in this respect with Colonel SEELY, whose ability, insight, and practical acquaintance with affairs are beyond question. It may be doubted, however, whether his further statement, that the prospect of their wishing to take the land without paying for it, was too absurd to be discussed, is equally well founded. So far as can be judged by the published reports, it was belied by the evident feeling of the majority of those present at the congress.

In point of fact, when the "masses" have become fully alive to their own power, it will be found that, as to the partially-educated among them, the striking eloquence and astute sophistry of orators and writers like Mr. HENRY GEORGE, or the somewhat less piratical projects of the school of Mr. ALFRED R. WALLACE, founded though they are on misunderstood facts and childish theories, will be found to outweigh the arguments of Professor FAWCETT and Mr. FREDERICK HARRISON on the subject of the so-called Nationalisation of the Land, cogent, and indeed conclusive, as they are.

With regard to the great majority of the residue, it is to be feared that natural predatory instincts in some cases, and sore temptation arising from grinding poverty in others, will lead them to act, when opportunity offers, upon

> "The good old rule, the simple plan
> That they should take who have the power,
> And they should keep who can."

If it must be admitted, however, that our present standards of right and wrong in these matters are being

gradually changed, and that the outlook upon the distant future is a gloomy one for the landowners and the capitalists of Great Britain, as elsewhere, it is, of course, possible that the advancing wave of Socialism which now threatens them may be rolled back by a Power undiscernible by human foresight, before an overwhelming catastrophe takes place. In any case, it is not likely that the forces now ranged on the side of law and order will be utterly put to rout in our day.

We may, for all practical purposes, assume that, although "The old order changeth, giving place to new," the alteration will be gradual, and, in a sense, constitutional, so that we need not set ourselves now to discount the possibility of future anarchy.

Except the Agricultural Holdings Act and the Settled Land Act, I am not aware of any recent legislation which specially affects our profession; nor do I know of any such measure likely to be brought before Parliament next Session, except the Rivers Conservancy Bill, and a Bill for dealing with the extraordinary tithe rent-charge on hop-grounds and market-gardens.

As to the former, I confess that I am not sanguine enough to expect any great result from it, if it is reproduced on its former lines; that is to say, if the adoption of its powers, in any particular case, depends on a preponderance of the votes of the owners of the lands to become liable for the improvement rates. The river valleys are for the most part so narrow; in other words, the area of the lands liable to flood is comparatively so small that they cannot possibly bear alone the cost of effectually dealing with the floods. On the other hand, if the adjacent uplands are brought into charge, even in a greatly-reduced ratio, the owners, who are in some shape or other to be allowed voting powers in proportion to the incidence of the rate, are certain, in the

majority of cases, to outvote the owners of the lowlands, whom they so greatly outnumber.

As I took the opportunity of our discussion on the question of Tithe Redemption last Session, to express my opinions on the general subject of the rights of the titheowner, I need not repeat them now. But I must say that the question as to the extraordinary rent-charge ought to be dealt with at all times, by every one concerned, as one in which the landowner and titheowner alone are interested. It is not for the interests of society that landlords should make an arrangement with their tenants which tempts the latter, when they have knowingly taken land liable to a legally-established and well-defined burden, to seek to get rid of their liability to it by noisy appeals to popular ignorance and passion, endeavouring by menace and actual outrage, to intimidate the owners of the rent-charge and their agents into the abandonment of their right.

Whatever the titheowners' abstract rights may be, however, it is certain that so long as men retain their present disinclination to make any payment which can be avoided; *à fortiori*, that which appears to them unusual and capricious, the particular mode in which the extraordinary tithe rent-charge is at present assessed, will lead to perpetual recurrence of strife between the tithepayer and titheowner; a state of things which is particularly regrettable, when, as is very commonly the case, the extraordinary charge is due to a clerical titheowner. For this reason it is certainly desirable that the question should be dealt with by the Legislature; and, if the Houses of Parliament next Session are guided by the same principles which characterised their dealings with the Agricultural Holdings Act during the last, we may look for a reasonable adjustment of the question without any confiscation of the rights of the titheowner.

Those rights are held by a title as valid, to say the least, as that of the lands in respect of which they accrue.

With respect to a topic which can never be absent long from our minds—the prospects of the British farmer,—I hope there is fair ground for believing that, as to a large proportion of England, we have at length seen the worst. Very serious qualifications must be made, however, for the deficient bulk and bad yield of the corn on large areas of the clay lands and poor soils in the Midlands and other districts. Any natural fertility which such soils heretofore possessed seems to have been wholly washed out, and has not been renewed by the tenants, whose crippled means have prevented them from incurring any outlay in manure or in labour which could possibly be avoided. As to the occupiers of such land, their condition is worse than ever, and, indeed, in my opinion, almost hopeless. Further heavy deductions must be made for the lateness of the harvest throughout the midland and northern counties, and the bad condition in which most of the corn in those districts was got. In short, I am obliged to conclude that, as to one-fourth of the arable land of England, there is not only no improvement, but a most disheartening increase of loss.

Nevertheless, as to the residue, the crops other than wheat have been satisfactory in point of bulk, and in the more forward districts of the eastern and southern counties the harvest was got under very favourable conditions.

Again, notwithstanding the serious loss and inconvenience caused by the recent outbreak of the "foot and mouth" disease over large areas, the graziers and breeders of cattle and sheep have had, as a body, a very successful season.

Without attempting to reproduce the statistics on the

subject, I think we may assume that they afford sufficient data for the conclusion, that the average price of home-grown wheat, during the next generation, will not in any year be much over, and probably not much under, 44*s.* per quarter.

Taking into account the wretched condition of most of the heavy-working clay land above referred to, and the degree in which it is affected by wet seasons,—the impossibility of wintering sheep on it, under the most favourable conditions, the extra labour required in farming it, the necessity for occasional bare fallows, unless it is farmed with extraordinary spirit, and the settled resolution of men of capital not to deal with it on any terms,—I hold it to be certain that it cannot be kept in cultivation and pay rent, under any conditions which can now be foreseen, with wheat at that price. Indeed, the cultivation of no insignificant proportion of it has either been already abandoned, or is carried on by landowners at an absolute loss, or by insolvent tenants, who pay no rent. There is no doubt, in short, that Great Britain must become to a greater extent than heretofore a pastoral country, although, strange as it may seem to many "able editors," there are in it wide districts, which, as arable land, support many more head of sheep and cattle on seeds and turnips, in the years alternating with corn crops, than they could do if laid down to permanent grass.

Considering that the actual value of the imports of cheese and butter into Great Britain, during the year 1882, was £16,081,594—to say nothing of eggs and poultry of the additional value of nearly £3,000,000,—and that our native producers have, nevertheless, cause to be well satisfied with the prices they have obtained, it seems obvious that there is great room for the development of dairying, not to mention the breeding of stock, so soon as

the land can be adapted for it. It is for this reason that a cheap and successful way of speedily laying it down is so great a desideratum. At present, the landowner who undertakes it on any large scale, with a view of making an immediate income, is, in effect, buying his land over again.

I have tried every possible mode of insuring a good plant, from two successive years dead fallow and "permanent" seeds from the best growers, sown without a corn crop, to the utilisation of that mysterious law of nature which enables one, by a heavy dressing of bones or other suitable manure, to transmute "twitch" and worthless natural grasses into white clover and other excellent herbage. In some cases the result is everything that could be wished, in others most disappointing; but in none can the total cost, including the necessary manuring after the second or third year, be reckoned at less than £6 or £8; or, if underdraining is required, and the sacrifice of tenant-right is taken into account, £12 to £15 per acre; which is more than most landowners can afford under the existing conditions, particularly as the land dealt with will probably not be worth, ultimately, more on the average than 25*s.* per acre. It seems clear that, during the Tudor times, some more simple mode of laying down arable to permanent grass was known; at all events, it was done to an immense extent, notwithstanding that Act after Act was passed during the reigns of Henry VIII. and Queen Elizabeth, with the object of restraining the practice. As the modern seedsman had not then been invented, any more than the oil-cake or bone merchant, I am quite at a loss to know how it was managed.

No doubt certain lands have a natural tendency to produce good permanent grasses; but neither the marls of the new red sandstone, nor the various clays of the lias formation

and the oolitic series, are, generally speaking, among them; and it was to a great extent on these that the laying-down referred to took place. The exciting cause was the high price of wool, which, in the reign of ELIZABETH, was worth four or five fold its present rate, regard being had to the difference in the purchasing-power of money. It will be seen on reference to Professor THOROLD ROGERS' "History of Agriculture and Prices in England," that the price in the midland counties about the period in question (the sixteenth century) was 20*s.* per tod.

To those of you who remember the "Winter's Tale," and bear in mind that the imaginary "Bohemia" in which the scene is laid, comprised, among other geographical peculiarities, a sixteenth-century Warwickshire sheep-farm, it will be pleasant to find that SHAKESPEARE fully confirms Professor ROGERS.

One of the factors in the problem which the delightful clown found himself unable to solve without counters, was—"every tod yields pound and odd shilling"; had the price been the precise rate recorded by Professor ROGERS, no doubt his mental arithmetic would have been less at fault; but, unlike the author of "Ryde's Scale," or the auctioneer or physician of to-day, he was unable to think in guineas.

One is tempted to linger over the charming picture of an English pastoral farm, and sheep-shearing festival, in the Elizabethan period, which is incidentally given in the play; but I will only remind you of two other interesting facts, which, bearing in mind SHAKSPEARE's full knowledge of the subject, may be inferred with absolute certainty from the clown's delicious soliloquy. First, the wether sheep in his time, as we should put it, "todded elevens"; that is to say, the average weight of a fleece was a little over 2½ lbs. Second, it was not unusual for a single grazier to possess at

clip-day 1,500 wether sheep, exclusive of ewes and lambs, if not also of "hogs or tegs."

Happily, so far as my experience extends, there has been, during the past season, no serious loss from the rot in sheep; and as the fall of lambs last spring was, except in some isolated districts, a fairly good one, I trust the deficiency in the stock of sheep, which had become so serious, is in a fair way to be made good. I may perhaps be permitted to notice here, reverting again to the Tudor period, an interesting confirmation of the recent discovery, that before the germ of the "liver-fluke" reaches the stage when it becomes injurious to sheep, it must pass through the body of a particular species of water-snail, I certainly never heard before of any connection between the snail and the rot; but Sir Anthony Fitz Herbert, who was a justice of the Court of Common Pleas in the reign of Henry VIII., and took great interest in agriculture, apparently farming much of his own estate in Derbyshire, published a book on Husbandry, in which, among other things, he treats of the rot in sheep, and writes "also white snails be ill for sheep in pastures." I may mention, by the way, that another book of his, published in 1539, and entitled "Surveyenge," gives a most interesting description of the mode of managing landed estates in his day.

In addition to the general opinions I have already given as to the future depreciation in the value of land in England, I had intended to lay before you an estimate of the losses of capital and income which the landowners and tenants of England have sustained during the last seven or eight years, based on the actual experience of my firm. It would detain you too long, however and indeed, on reflection, I do not see that any good end would be

served by it. All I shall say, therefore, on the subject is, that I am persuaded no one except those who, like the solicitors and ourselves, are, so to speak, behind the scenes, can have any idea of the enormous sacrifice of property in the case of both classes, or of the cruel anxiety with which those of us who are responsible for the management of landed property have had to endure of late.

Before concluding, I shall venture, in virtue of my office, and by reason of the great interest and hearty pride which I take in my profession, to tender some earnest advice to the Students of the Institution, those alike who are preparing for the important duties of Urban Surveyors of all classes, and for the branches of the profession more immediately connected with land,—I say to each, use all possible energy to become a master in your craft, but do not stop there; find time and make opportunity for culture in other directions. It is one of the singular advantages of our profession, that even the smallest smattering of, *â fortiori*, a real acquaintance with geology, archæology, botany, or natural history, and notably a knowledge of the chronicles of England, the historic sites, including those of the great baronial and ecclesiastical establishments and the homes of our great men, add immensely to the interest of our professional avocations.

I should be the last, however, to recommend anything which can lead to the frittering away of time in efforts after quasi-omniscience; it is essential that a Student's principal attention should be given to his profession, and that the other subjects I have referred to should be regarded as relaxation, or rather as recreation, tending to expand and strengthen his intellect, to widen his mental horizon, and elevate his general tone.

In this connection I may refer to our recent Professional

Examination. Eminently successful as the results were, it must be admitted that the aspect of our excellent Secretary's synopsis of the subjects for examination is not calculated, *primâ facie,* to fortify the resolution of a timid aspirant for enrolment amongst us. To such an one I would say that, although it is not proposed to lower the standard of subjects, the system of marks is so adjusted as to make it less difficult than it appears at first sight to obtain a pass; provided only the knowledge of certain subjects is well grounded, and not "crammed" for the occasion.

The fact that twenty-two candidates out of twenty-five passed in the last examination is very gratifying, and may re-assure over-nervous candidates for admission to our ranks.

Those of you who remember the admirable Papers on the Education of the Surveyor by Mr. Jeremiah Matthews (whose recent departure, full of years and honour, we are now lamenting) and Mr. Sturge, will remember that, although thoroughly agreed as to the desirableness of the highest possible culture, consistent with professional efficiency, they diverged somewhat in opinion on the question whether a University education did or did not occupy too much of that particular part of a young man's career which should be devoted to mastering the details of his profession, namely from eighteen to twenty-one.

Both would, I doubt not, agree that the problem has been to a great extent solved by the establishment of Cavendish College at Cambridge, which at a moderate cost gives to undergraduates during a University course of three years ending at nineteen years of age, all the scholastic advantages of a University curriculum including a degree, as well as many of the social benefits incidental to a University career.

I doubt whether the advantages of this college are so widely known as they ought to be in the interest of the public, and I shall be glad to give further information on the subject to any one desiring it.

I cannot conclude without tendering to the several classes of Surveyors in London, and other great centres of population, my apology for having dealt with my subjects from the point of view of a country Surveyor, rather than of a London Valuer or Building Surveyor.

It is not from any lack of appreciation of the enormous magnitude of the interests with which they have to deal, for it happens that I have some little professional acquaintance with them; indeed, had time permitted, I should have endeavoured to impress upon my country brethren a sense of the vast importance of those interests, not only as regards the value of the land, but of the cost and fitness of the buildings put upon it. They hear from time to time of enormous sums paid per foot for property in London, but it conveys little practical idea to their minds. It would be more to the purpose to point out to them, as I could do, half a dozen sets of buildings in the Metropolis, occupying on the whole no more than 2½ acres, the yearly rental of which is £88,000, equal to that of 20 or 30 average rural parishes. No country Surveyor could fail to understand the significance of this fact, as an illustration of the prodigious interests involved in the varied business of his London brothers, or to appreciate the advantage of being associated with them.

Happily for our Institution, every class and section of our manifold profession is well represented in it, and it is only necessary for us to take care that each and all supply Members to the Council, and, in due rotation, Presidents to the Society.

It would be an evil day for the Institution if at any future time a tendency should be developed to convert our Council into anything in the nature of a "clique" of one particular branch of the profession, and I cannot doubt that our common sense and reasonableness will protect us from any such result as that.

Lastly, I must express my opinion that the Institution should act on the principle *festina lente*—hasten slowly—that is to say that it should betray no disposition to encourage an increase of mere numbers by lessening the stringency of the tests for admission.

My own belief is, indeed, that it would be for the interests of the profession in general, and the Institution in particular, if every Member who has a son desirous to become a Professional Associate, should incite him, even during this interim period of optional examination, to enter by that mode, in virtue of his own merits, rather than in respect of his hereditary claim to consideration.

I would further suggest that such Members as are accustomed to receive pupils, whether articled or otherwise, should require them to pass the Students' Examination.

Mr. T. Huskinson (Past President) desired to express the pleasure it gave him to move the vote of thanks to The President for his excellent Address. The President was known to most of the members of the profession for his high character and his large and varied experience, but he (Mr. Huskinson) claimed to have a still more intimate knowledge of him, having the happiness to claim him as a neighbour, and having enjoyed his friendship for forty years. He felt that he would bring to the discharge of his honourable office not only the ability which wide practical experience gave him, but that high personal

character which multiplied for good all the other qualities a man possessed.

The vote of thanks was seconded by Mr. J. Shaw (Fellow) and carried unanimously.

The President having briefly tendered his acknowledgments, the Meeting adjourned.

Paper 117 }
No. 201 }

THE AGRICULTURAL HOLDINGS ACT, 1883.

By J. W. WILLIS BUND.

(BARRISTER-AT-LAW.)

Read at the Ordinary General Meeting of The Surveyors' Institution, *December 3rd*, 1883.

THE PRESIDENT, MR. T. SMITH WOOLLEY, IN THE CHAIR.

The President said it had occurred to the Council, in view of a discussion on this Act, that something would be gained in the direction of system and method if Mr. Willis Bund could be induced to favour the Institution with a Paper on it from the lawyers' point of view. He was happy to say that Mr. Bund had kindly complied with that request and would now read the Paper which he had prepared.

In the Paper I have the honour to read, I propose to omit all mention of the question, "what are the best means of securing to the tenant the return of his outlay for improvements," and confine my remarks to the Act of 1883, avoiding as far as possible mere technical points or points of detail, and confining the remarks to questions of principle.

Every one will agree that a tenant should receive back, either in money or in some other form, the value of the capital he places in his landlord's property. The difficulty is to ascertain the most just and equitable way of securing this return to the tenant. Two modes are usually proposed as the means for effecting this—payment based on the outlay the outgoing tenant has made, or payment based on the value

that has arisen from such outlay. The first is the principle of the Act of 1875, which spread the outlay over a certain number of years, and made it an ordinary sum in arithmetic to say what compensation the tenant would receive. It had one great advantage, both landlord and tenant knew their exact liabilities and rights. The second is the principle of the Act of 1883; it has this great disadvantage, that it is by no means certain the tenant will receive anything, and if he is to receive anything it will be a task of no ordinary difficulty to say what is the amount he will receive. An example will best illustrate this.—A tenant puts up some new buildings for a particular purpose, such as for dairying. On his quitting, the incoming tenant determines not to carry on the dairy. The question as to the amount of compensation the outgoing tenant would receive, if compensation is based on outlay, is the amount laid out, less a fixed proportionate part for each year the tenant has remained since the outlay. If value is taken as the basis, the amount the tenant will receive depends upon what, if any, value the dairy buildings have to the incoming tenant. If none, then, however large the outgoing tenant's outlay, he will not get back a 6*d*. If it has any value to the incoming tenant, the outgoing tenant will only get back that actual value, irrespective of the outlay. If I may use a legal example, compensation based on outlay is an enquiry as to damages; compensation based on value is the trial of the action. The basis of value makes a certainty an uncertainty, and substitutes the chance of getting a larger sum as compensation than the original outlay for the certainty of the return of the outlay; and this may give rise to a system of speculation in improvements, so that the Act may be used, not as a means of attracting capital to the soil, but of encouraging what will be a dangerous form of gambling among farmers and valuers. One result of this, we already have seen advertise-

ments by persons that they are willing to advise tenants as to the best way of making claims under the new Act. The profession will probably be a profitable one, and we shall soon see guides, philosophers, and friends of the tenant-farmer, who will teach him how to lay out the smallest sum of money to get the largest sum of compensation.

The Act gives no rule as to how the valuers are to ascertain what is the sum that fairly represents the value of an improvement to an incoming tenant, and it is obvious this is a subject on which great difference of opinion will prevail. Take, for example, draining. A field has been drained, say, four years ago, what is the precise value of that draining to the incoming tenant? or, a field has been manured four years ago, will any one pretend to say that he can state accurately the precise value of that dressing of manure to an incoming tenant? Yet this is what the valuer must do; he must specify in his award the value of each improvement. Value being taken as the basis of compensation, the Act proceeds wholly upon that footing, it provides (Section 1) that the tenant who has made any of the improvements named in the Act shall be entitled, on quitting his holding at the determination of his tenancy, to obtain compensation from his landlord. Unfair as a great deal of the Act is to the landlord, this clause is still more unfair to the tenant, for it enables a landlord, if he is disposed, to avail himself of his tenant's capital and deprive him of all compensation. It is not the case of the sitting tenant, but of a case that may often occur if a tenant becomes bankrupt, or is guilty of a breach of any of the covenants, and the landlord re-enters. Compensation can only be claimed under the Act if the tenant gives two months' previous notice, before the determination of the tenancy, of his intention to claim it. Re-entry by the landlord would prevent this being done, and consequently no compensation could be

claimed. In very few tenancies there are not frequently technical breaches of some of the covenants, and even the Conveyancing Act of 1881 would not prevent a landlord insisting on his right of re-entry. If he does so, the right to compensation is gone. It is surely not a desirable state of things that makes it so obviously to the benefit of a landlord to insist upon his strict legal right, and enables him absolutely to deprive a tenant of the money laid out. The tenants asked for security for their outlay; the Act professed to give it, but it seems that, although they have asked for bread, they have only received a stone. The difficulties do not cease here. Assuming the notice given, and the tenant entitled to compensation, how is he to get it? The valuer has to say, What is the total value of the unexhausted improvements? and the sum he is to award in respect of each improvement; he will have to say that the original manurial value of a particular dressing was so much, that each year, and each crop takes away a definite proportion, and to say that after a lapse of years the respective values left in the soil of each of the successive dressings of manure is so much in cash. He will often have to say this without knowing anything as to the original quality of the manure, and, it may be, with deficient information as to the quantity. If Sir John Lawes' experiments go to prove any thing, they prove the extreme difficulty, when all the conditions are accurately known, of estimating the real manurial value of any specific application of manure. But the valuers under the Act are to proceed without the knowledge of any of the conditions, and say, with an accuracy that no one has yet pretended to have, what is the money value of an application of manure to an incoming tenant years after its application. Nor is this all. Difficult as this task is, it is complicated by a further consideration—a valuer is not to take into account what is justly due to the inherent

capabilities of the soil. What are the inherent capabilities of the soil? A valuer goes over a field; he is told that three years ago it was dressed with manure; two crops have since been taken. He can value the field; but on what principle can he say the unexhausted value of that dressing of manure to an incoming tenant is x, but from that y must be deducted, as representing the inherent capabilities of the soil of that field? Yet this he must do, and express the result in his award. When one considers the class of men who usually act as valuers on a change of tenancy in small farms, one is almost tempted to ask, was it meant for a joke to ask such men to decide such questions. They may be able to say the field is well or badly farmed, or is in a good or bad state of cultivation; but they have little if any knowledge of geology, none of chemistry. Yet the Act says they are to decide questions very often without seeing what was the quality of the manure that was applied, and oftener, even when no crop is growing on the land, what is the remaining value of manure of which they do not know the constituents parts, and what is to be deducted from that value for the inherent capabilities of the soil. An Act of Parliament, we all know, can, according to the theory of English lawyers, do anything but make a man into woman, but it is even a greater triumph which this Act proposes to accomplish to enable a man without the necessary facts on which to form an opinion to distinguish with certainty between what is due to the manure and what to the soil.

The second clause of the Act is evidently meant as a punishment for those who did not adopt the 1875 Act. Its result is that if a tenant entered into a lease which contained the usual formal clause that "None of the provisions "of the Agricultural Holdings (England) Act shall apply to "this tenancy," yet, notwithstanding, the provisions of this extension of that Act shall apply. Its effect will be felt

most in cases of small holdings and gardens. Agreements as to these contain no reference to compensation; but by this clause the tenant can come upon his landlord for compensation for the unexhausted value of every load of manure he has placed, or alleges he has placed, on his garden since 1874. The hardship is that in many cases the rents of small holdings are fixed at a low figure, on condition of the tenant doing everything. But the tenant can turn round on his landlord and say, "True, I know my rent was fixed on that basis. I don't care for that, I want to be paid for the manure I was bound to put there; and, as the law says I can be, I intend to enforce my right." And this a tenant can legally do under this clause of the Act; and although the attention of Parliament was called to this effect of the Act, they considered it right to permit it, and give a legislative inducement to a man to depart from his bargain. The great hardship is that the landlord is perfectly powerless; he can do nothing to prevent the tenant who desires it enforcing his statutory right to be paid twice over for the same thing.

As to first-class improvements, nothing need be said, because as to these, the law remains substantially unaltered. As to draining there is one point that seems to be overlooked, and on which it behoves landlords to be on their guard. If the landlord agrees to execute the draining after notice from the tenant, and charges the tenant with £5 per cent. on the outlay, or makes it repayable in twenty-five years, this seems very fair and reasonable; but, if it is a yearly tenancy, there is nothing to prevent the tenant at once giving notice to quit, and leaving the landlord to receive his £5 per cent. for one year only, or only the first of his instalments. It may be said the landlord could get a new tenant; but in the present position of English agriculture, the landlord would not be likely to find a new

tenant to pay either the 5 per cent. or the instalments as to drainage, so the position of the landlord is far from enviable. If he has only yearly tenants, or if a tenant's lease is nearly run out, the tenant can either lay out his own money with the hope of getting it back with large additions, or can compel the landlord to spend his money and then leave him. If a tenant really wants to annoy his landlord, this section seems especially made to give him every facility for the purpose.

The most important and most difficult part of the Act, is the one under which questions will most generally arise, the improvements in the third part of the first schedule; few tenants will execute the improvements in Parts I. and II., but some of those in Part III. all must do. As to these, the tenant has perfect freedom of action; he can now manure his land not merely for the purpose of cultivation, but also for the purpose of compensation. Having regard to this, the first and most important question is, can a landlord place any restrictions on his tenant either as to the quantity or the quality of the manure the tenant uses? I venture to think he can; and, by a well-drawn agreement, secure himself against the abuse of the powers of the Act. An agreement under which the tenant covenants that he will only use certain manure of a certain quality is perfectly good, and if that agreement provides fair and reasonable compensation for the manures used, it is valid and binding, the 55th section, on the true construction of which the whole question turns, provides that any agreement depriving the tenant of his right to compensation under the Act is void. But such an agreement as I have mentioned does not do this; it only stipulates that the tenant shall not do certain acts—if he does, then it is a breach of the agreement. An agreement not to do certain acts is no more an agreement depriving a tenant of compensation than an

agreement providing a particular mode of cultivation, such as the four-course shift. It may be said, if the tenant does manure in spite of the agreement, he has executed an improvement, and is entitled to compensation; under section 1, and under section 55, the agreement, so far as it deprives him of it, is void. The 5th section, however, enacts that if an agreement provides fair and reasonable compensation for improvements mentioned in the third part of the first schedule, then such compensation shall be substituted for compensation under the Act, and an agreement providing such compensation is expressly excepted from the 55th section; so that, if the compensation for the manure laid out is fair and reasonable, an agreement can stipulate how and in what way the tenant should manure the land, and that, if he manures in defiance of the agreement, he will not be entitled to compensation.

The importance of this cannot be overrated, as it is the only means by which landlords can protect themselves from being robbed by their tenants; every prudent landlord will endeavour, as soon as possible, to place his future relations with his tenants on a definite footing before, or as soon as possible after, the Act comes into operation. Unless this is done landlords should bear in mind there is no limitation on the right of the tenant to execute improvements and obtain compensation. It would seem as if the Act was purposely framed to enable tenants to adopt the worst possible system of farming, the old-fashioned negligent style until the last year of the tenancy, then expend very large sums in manure not to benefit the land but to receive it back with additions in the form of compensation.

The 1875 Act provided that a tenant could not claim as compensation more than the average amount spent in manure and feeding-stuffs in the last three years, if the tenancy

lasted so long, or on an average of the whole tenancy if it had lasted a less time. Not only is this very wise and necessary provision omitted from the 1883 Act, but it is expressly provided by the 59th section that the tenant, after giving notice to quit, can claim compensation for any manure he uses; so a tenant who had never spent anything in artificial manure or feeding-stuffs, on giving or receiving notice to quit, can manure every field on the farm and consume any quantity of feeding-stuffs, and obtain for compensation not only the cost of the manures and feeding stuffs but something beyond.

The Act contains no limit as to amount of manure or the frequency that manure may be applied. A tenant can, even in defiance of his landlord, apply nitrogenous manure, and, after stimulating the soil so that he gets the full benefit, obtain large compensation for his outlay, and leave the landlord not only with exhausted land, but with a liability of paying for the manure as if the land were permanently benefited.

The wording of the 5th section as to the compensation for manures is peculiar, it is very hard to say what is its exact meaning; its importance cannot be over-estimated. One construction is, that on the determination of an existing tenancy a tenant can claim compensation for manures; if the agreement contains provisions giving fair and reasonable compensation, then the valuers are to adopt that compensation; if it contains no such provisions, then the compensation is in the valuers' discretion, while in every case it is open to the valuers to say if the compensation provided by the agreement is or is not fair and reasonable, and if they find it is not, they can set the agreement aside. If this is the correct construction, the result is startling. An Act of Parliament providing that a contract deliberately entered into and acted upon, that may have been in existence

for years, is to be considered by irresponsible persons, who are to say if it is to be carried out or not, is certainly a very startling bit of legislation. Yet this is what the section says:—If the valuers think the compensation fair and reasonable, they are to give it; and this seems logically to imply the converse if they do not, then they are not to give it. The question arises, what is fair and reasonable compensation, and the only answer that can be given is, whatever the valuers consider to be so. But there is a construction that may be placed on the section that will perhaps startle tenants, a construction in support of which much may be said; the section says, in considering if the compensation is fair and reasonable, regard is to be had to the circumstances existing at the time of making the agreement. Will it be open for the landlord to say, "I know that the agreement provides very heavy compensation, but it was granted at a time of great agricultural depression, when I had great difficulty in letting my farm. Having regard to present circumstances, it is not fair and reasonable, and should not be allowed, and the compensation should be less." Whatever is the true construction of this section, it shows the danger that arises when the power to set aside contracts is given. Each party can say, "We did enter into the agreement, we have acted upon it all these years, but we never intended to carry it out"—the landlord because the compensation was too high, the tenant because it was too low. "It was a case where we both intended to do the other." If last year it had been stated an Act of Parliament would be passed in 1883 that would enable such an argument to be legally put forward in England as to English land, the statement would have been regarded as too absurd for belief.

A question may arise on this, as on other sections, that is of great practical importance, does a contract of tenancy include a lease? the Act nowhere speaks of leases, but

speaks of agreements. Having regard to the definition of a contract of tenancy, a letting for a term of years, and that, although popularly a lease is spoken of as distinguished from an agreement, yet there seems no valid doubt that in the Act the word agreement includes lease.

The definition of landlord given by the Act must give rise to difficulty. He is defined as the person entitled to receive the rent and profits for the time being; the person entitled to receive the rents is very often not the person beneficially entitled. His interests may be quite antagonistic to those of the owner of the land, or he may care nothing about it. A receiver, either under a mortgage, or under the Chancery Division, or in bankruptcy, would satisfy the definition of the landlord. Would notice to a receiver be sufficient, and could he give consent to the execution of improvements? It would seem that he could, and, consequently, the landowner would not be entitled to any voice in the execution of any improvement on his estate. A letter written to the receiver will, if unanswered for a month, entitle an outgoing tenant to spend any sum he may please in drainage, the owner who will have to pay for the work is, under the Act, powerless to prevent the work being done, however much he may dislike it, however unnecessary it may be.

Another alteration in the definition of landlord will give rise to difficulty. The 1875 Act included the agent in the definition, but the agent is omitted in the 1883 Act, and it would seem on purpose; for in certain clauses, such as the third and fourth, the agent is expressly mentioned. It will give rise to a good deal of needless trouble and expense, if it is necessary for all notices to be given to the landlord personally, and he has to sign all the notices himself; but, in the face of the new definition, it is very doubtful if the agent, even if duly authorised in writing, can act for the

landlord except in those cases where the agent is expressly named. Great injustice, too, may be done, as an outgoing tenant on giving notice to his landlord by post that he intends to execute improvements, may, if he gets no answer for a month, execute the improvements and claim full compensation. In these days when landlords are often absent abroad, it is quite possible a landlord may find that his absence has cost him a very considerable sum in so-called improvements.

The extension of the Act to holdings of any size will most likely give rise to a good deal of trouble, and may have the effect of discouraging landlords letting small quantities of land. If any tenant, however small his holding, who can get a speculative solicitor to take up his case, can force his landlord to an arbitration, and put the landlord to costs which, even if the landlord is right, he must pay, landlords will soon recognise that small holdings are not only very unprofitable, but most annoying forms of tenancy.

The 57th section will most likely operate very unjustly upon the tenant; it provides if a tenant can claim compensation under the Act, he cannot claim it in any other way. If the tenant makes a claim to compensation, and includes in it things that could have been included under the Act, the landlord's reply that the claim is in an irregular form will be a complete answer. If by any chance the claim is not made two months before the expiration of the tenancy, then, however much the land may be improved, however greatly the value to an incoming tenant increased, still no claim can be made for compensation as the claim could have been made under the Act, and was not so made. This 57th section will in many cases take away the right to compensation.

The procedure clauses of the Act are taken, with very little alteration, from the Act of 1875; however well they

may have been adapted for that Act, for the purposes of the present they are very inadequate. Under the 1875 Act all questions of compensation were pure questions of figures, so much laid out, so many years elapsed—what has the tenant to receive? a matter of this kind that was really nothing more than a mere matter of account might well be dealt with by a county court judge. But under the present Act all this is changed; the question is no longer a mere question of account; the questions that will arise are, what are the value of the improvements to an incoming tenant? what amount represents the inherent capabilities of the soil? For the purposes for which they were originally formed county courts are doubtless most satisfactory tribunals; but it seems very questionable how far they are the right tribunal to review the decision of arbitrators upon questions which arbitrators must often decide, not so much on oral testimony as on a close, critical, and personal inspection of the land. It will be said that judges decide upon technical points daily; but judges only do so on evidence; here a great part of the evidence on which the decision is based is the result of a personal examination by a specially-qualified person; the personal examination of a farm by a county court judge will not tend to give confidence to the reversal of a decision of men who may be the best agriculturists of the day. It is with some apprehension one regards the decision of a person wholly ignorant of the first principles of agriculture, reversing the opinion of the leading agriculturists, and this without any opportunity for question or appeal, when the Act expressly contemplates the possibility of such a person going wrong in his case, a subject in which he is specially trained, as to give every opportunity for questioning or appealing from the decision.

The procedure is also objectionable for the ground it opens to fraud. If a tenant chose to claim £99 19*s.*, for

compensation, however bad in law the claim may be, if the arbitrator agrees to it, the landlord must submit. The Act has put it completely in the tenant's hands to say if he will be content with £100, or will go in for a larger sum with the chance of appeal. It is never safe to prophesy, but one cannot help feeling that a large number of claims for sums just under £100 will arise.

Another point that must be regarded with apprehension is, what will be the character of the men who will be employed as valuers in small cases? There seems a considerable danger, now the profitable trade of trustee in bankruptcy is abolished, that the class of persons whose occupation is temporarily taken away may find one equally profitable ready to their hand as professional tenants' valuers. The Act gives great scope for this, if the statement in the appendix to the report of the Royal Commission on Agriculture is correct that, in some places even now a tenant who is about to leave a farm consults a valuer as to how he shall farm to secure the highest compensation on leaving; is it not to be feared that this custom may become universal, and that the adviser as to compensation may act as the tenant's arbitrator, carry out his advice into practice, and embody it in awards?

The provisions as to charging the tenant's compensation on the holding may cause considerable injustice to the landlord. If trustees are landlords—and there are numerous cases where this is the case—the compensation will, as a rule, be charged on the holding. The question whether such a charge is a mortgage, so as to enable the holder to obtain a receiver as of right, is one that is by no means clear; but if it is, then, under the definition of landlord the receiver becomes landlord, and questions of niceness and difficulty must arise.

I have purposely confined the observation in the paper

to the compensation part of the Act, and have omitted all reference as to the very important provisions as to notice to quit and distress. These are far too important to be considered at the end of a paper, and the law of distress as modified by the Act deserves a paper to itself.

What the results of the Act will be it is difficult to say; that it will have but little effect is certainly not the case. In many cases it will produce changes that it is not pleasant to contemplate. One thing is clear, that to many landlords the Act means ruin. If the incoming tenant pays the compensation, he will pay so much less rent; and, at the present day, there are very few landlords who can afford at every change of tenancy to have their rents still further reduced. If the compensation is charged on the holding, the landlord will have to pay the interest; and it is hardly likely that he will be able to raise the rent of the farm to a sufficient sum to recoup him the interest, so that every change of tenancy will mean a permanent reduction of the landlord's income. In cases where the interest on mortgages, portions, annuities, and jointures have to be paid out of the rents, the margin the landlord now receives is small, that margin will be further diminished on every change of tenancy. To many landlords that means inability to live. It may be a desirable thing to get rid of landlords, but it is difficult to contemplate with composure an Act of Parliament which, while its results as to benefiting the tenant are doubtful, will certainly ruin the landlord.

There is one further result the Act seems likely to produce—it will limit the number of persons who can afford to take farms, only rich tenants who have plenty of capital will be able to lay out their money in improvements with the hope of being paid a part at a distant date, and as more lucrative and safe means can readily be found to employ capital the number of persons who will be willing to

risk their money in agricultural improvements will be fewer and fewer, the number of farms will be in excess of the demand, and the result will be to intensify rather than to diminish agricultural depression. The ordinary tenant will be improved out of existence.

Of the social and economical results that will follow from the Act it is no part of the paper to treat. The Act will certainly produce great changes in the relations of landlord and tenant, and while ruining the former will be very doubtful gain to the latter. The results of the Act do not seem to have been contemplated by those who framed it; or, if they were, they have been studiously kept out of sight. Any measure giving to the tenant security for the return of any capital he expends in *bonâ-fide* improvement of his landlord's property, would be a boon to landlords and tenants alike. But that is just what this Act does not do. Some of us may think that an Act whose real short title is an Act to promote litigation between landlord and tenant is not an unmixed evil; but such an Act is certainly not a settlement of the question of compensation for tenant's improvements. The leaf of the Statute Book containing that settlement has yet to be added to it, and without in any way depreciating the authors of the Act of 1883, one may say with truth, "Some hand more calm, more sage, that leaf must fill."

Mr. J. Shaw (Fellow) had much pleasure in proposing a vote of thanks to Mr. Willis Bund for his excellent Paper, which was just what might be expected from a gentleman of his large legal experience. He felt sure that it would be fully appreciated by the Members, and, although he might not agree with Mr. Bund in some of his remarks, he hoped that the circumstance would not at all detract from the value of the vote of thanks which he had the pleasure of proposing. He agreed with Mr. Bund as to many of the

difficulties to which he had called attention, and felt also that the Act would not have the effect which its promoters anticipated. He observed, by the way, in that day's newspaper, that a distinguished member of the Government went so far as to say that this Act converted what was a sham in the Act of 1875 into a reality. He (Mr. Shaw) did not, however, agree that the Act of 1875 was a sham. As he had mentioned in that room on a former occasion, he had put that Act into operation in a large number of cases, and it had proved a great boon to the tenant-farmers with whom he was concerned. He believed, moreover, that the Act had done a great amount of good by indirectly encouraging agreements, and by introducing a new and more defined system of tenant-right. For these reasons, he was not prepared to agree that the Act of 1875 was a sham: so far from it, he believed that had that Act been made compulsory, its provisions, with a few exceptions, would have been sufficient for all practical purposes. Nevertheless, he felt that the settlement which had been arrived at by the present Act was the only possible settlement under the circumstances, and he, for one, was prepared to take the Act and to do all he could to administer it as fairly and fully as possible.

The author of the Paper had, he thought, wisely confined himself to the compensatory clauses of the Act, and he would therefore follow his example in this respect. It seemed to him that the Act could only be put into operation by a tenant claiming compensation, or by his claiming for the removal of machinery and buildings, or by an agreement which would be mutual between the parties. He would have been glad had the Act embraced all questions which arose between landlords and tenants. As it stood, it simply applied to the claims which he had mentioned.

The author had observed that the Act "gives no rule

as to how the valuers are to ascertain what is the sum that fairly represents the value of an improvement to an incoming tenant, and it is obvious that is a subject on which great difference of opinion must prevail. Take, for example, draining. A field has been drained, say, four years ago, what is the precise value of that dressing of manure to an incoming tenant? Yet this is what the valuer must do; he is to specify in his award the value of each improvement." And further on, that the valuer "will have to say that the original manurial value of a particular dressing was so much, that each year and each crop takes away a definite proportion, and to say that after a lapse of years the respective values left in the soil of each of the successive dressings of manure is so much in cash. He will often have to say this without knowing anything as to the original quality of the manure, and, it may be, with deficient information as to the quantity. If Sir JOHN LAWE's experiments go to prove anything, they prove the extreme difficulty, when all the conditions are accurately known, of estimating the real manurial value of any specific application of manure. But the valuers under the Act are to proceed without the knowledge of any of the conditions and say, with an accuracy that no one has yet pretended to have, the money value of an application of manure to an incoming tenant years after its application." He (Mr. SHAW) did not himself anticipate so much difficulty in dealing with ordinary dressings of manure. These, he thought, were matters which, though they might appear difficult to the legal mind, were, practically, readily settled. Nor did he think there would be much difficulty as regards draining, which was a substantial improvement, and, if properly done, could be judged easily enough in the great majority of cases. His experience, moreover, led him to anticipate that the second part of

Schedule 1 of the Act would, in almost all cases, be put into operation by means of an agreement between the parties.

Compensation for manure and for feeding-stuffs (Nos. 22 and 23 of Schedule 1) might, he thought, be restricted to a limited period; but he did not anticipate much difficulty under this head. As to the other portions of Part III. of this Schedule, he saw considerable difficulties.

But the greatest problem, to his mind, was how to estimate the improved value of the holding, speaking generally and not with reference to manures only. Was the rent actually paid to be considered the basis, or was it to be the fair average rental of land in the district, or on what other principle were they to act? His own experience, and he thought it was that of many in the room, was that there were a large number of holdings let at notoriously low rents, which by ordinary management might be considerably improved without any extraordinary outlay on the part of the tenant; and at the present time there could be no doubt that, in a large number of instances, there would be a considerable margin between the true rental value and the rent actually paid. Was this circumstance to be taken into consideration?

He was much struck with a letter which appeared in a newspaper during the time the present Act was before Parliament. The writer observed, "Let us see what injustice this will work. I will cite an actual case. In 1880 a landlord by deed let a farm of 300 acres to a tenant for 14 years. The farm had been allowed to run down by the previous tenant, and was dirty and in very poor heart. Knowing this, and that a considerable outlay would be incurred by the incoming tenant, the landlord fixed the rent at 20*s.* an acre, instead of 30*s.* paid by the outgoing tenant. Under this Act the result will be this: at the end of 14 years the tenant will have pocketed about £3,000 in reduced

rent and interest, and he will then be entitled to extort statutory compensation as if he had not benefited a farthing, and he will, in fact, get paid twice over. No doubt it might be thought this would be met by the 6th section, which provides that there shall be taken into account, in the reduction of the compensation, 'any benefit which the landlord had given or allowed to the tenant in consideration of the tenant executing the improvement.' But a pavement of good intentions is a poor substitute for the solid ground of contract. In the case I have mentioned there were no actual negotiations between the landlord and tenant; the reduction was made from a simple sense of right feeling, and a desire to exercise the rights of property for the general good. Such a man, then, as this, the man who does right for its own sake, is the first to feel the injustice. The lease I speak of was drawn in 1880, so that the 6th section would not help the landlord a bit. He would still be bound by his deed, still, under the present law, prevented from giving parole evidence of the preliminary negotiations, and would, in fact, be plundered."

He (Mr. Shaw) thought this very well illustrated the position he had mentioned. He had himself recently let a farm to a member of the family of a deceased tenant at a low rent, on the understanding that there was to be no increase of rent so long as the widow lived. On reading the Act it occurred to him that he might be placed in an awkward position; and he therefore suggested to the tenant that the fairest way would be to have the farm valued at the present time, and the rent fixed which should be paid on the death of the widow. That appeared to him the only way to get out of the difficulty. It seemed to him a serious question, in the case of tenancies let at low rents, whether it was not absolutely necessary, as a duty which an agent owed the

landlord, to have the farm valued for the purpose of ascertaining the real position of things, and to have matters put into proper form under an agreement. He awaited the result of the discussion with great interest, hoping that some one might be able to throw more light on that part of the subject.

The author of the Paper went on to say, "Nor is this all. Difficult as this task is, it is complicated by a further consideration. A valuer is not to take into account what is justly due to the inherent capabilities of the soil. What are the inherent capabilities of the soil? A valuer goes over a field; he is told that three years ago it was dressed with manure; two crops have since been taken. He can value the field; but on what principle can he say the unexhausted value of that dressing of manure to an incoming tenant is x, but from that y must be deducted as representing the inherent capabilities of the soil of that field? Yet this he must do, and express the result in his award." Questions as to the inherent capabilities of the soil would not, probably, much affect the valuation for manure, but would introduce great difficulties with regard to other improvements. It was sure to be contended by the landlord that much was due to the inherent capabilities of the soil, and the question was how to measure these inherent capabilities. It was a point almost sure to entail a resort to an umpire; and therefore it was of the utmost importance that the umpire should be appointed by some independent authority like the Land Commissioners. He was much struck with the practical remarks of The President in his Opening Address, as to the way in which he would measure the inherent capabilities of the soil. He (Mr. Shaw) had some cases to deal with (before an Agricultural Holdings Act was thought of) in which he had had to settle what was fair between landlord and tenant. A very

old friend of his (at one time a Member of the Institution, but now deceased) once asked him to accompany him over a farm which had been occupied by a gentleman whose family had lived in it for something like 200 years. The tenant died, his widow followed him, and then the son came into possession; and the question was, what ought to be done? He found that the farm was valued in 1824 at £300, and reduced in 1834 (he supposed owing to some depression) to £283. In 1866 he was asked to make a valuation, and he put the rent at that time at £340, a difference between the £283 and £340 of £57. He found that the landlord had spent amounts on the holding, and the difference represented some £50 as its improved value to the tenant then coming in. The plan he adopted was to divide the amount by two, and allow one-half to each, which corresponded with the principle adopted by The President in the illustration given in his Opening Address; and he had the pleasure of knowing that it gave satisfaction alike to the landlord and the tenant.

In another case, so lately as last month, where the tenant was leaving a farm on which he had made improvements, and was moving to a better one, the question arose, what should be done with reference to certain improvements, such as roads, water supply, culverts, and other things which had been effected, and which were admitted to be out of date under the Act of 1875? He told the tenant (though he had no legal rights in the matter) that, for the purpose of dealing with him as they were in the habit of dealing with tenants, they would consider his case fairly, and the tenant wrote to him on the 26th ultimo, that "as regards the improvements, which are out of date, I think you are entitled to one-half, as they are unexhausted to the incoming tenant." He mentioned this by way of endorsing the principle enunciated by The President.

He quite agreed with Mr. Willis Bund as to the great difficulty with regard to the valuers. As he had already said, he had availed himself of the procedure clauses of the previous Act since 1876; but in a great number of cases in which those clauses had been applied by him, no proper valuation had been made. In some of the cases, although there had been appointments by the Land Commissioners of umpires, Members of the Institution, for some reason or another they had not been called on to act. In one case where the valuation was between £400 and £500, the tenant left last Lady-day two years, and the valuation was only settled in the early part of the present year. Therefore he quite agreed as to the difficulty with regard to valuers.

The author said, "Can a landlord place any restrictions on his tenant either as to the quantity or the quality of the manure the tenant uses? I venture to think he can, and by a well-drawn agreement secure himself against the abuse of the powers of the Act. An agreement under which the tenant covenants that he will only use certain manure of a certain quality is perfectly good, and if that agreement provides fair and reasonable compensation for the manures used, it is valid and binding. The 55th Section, on the true construction of which the whole question turns, provides that any agreement depriving the tenant of his right to compensation under the Act is void. But such an agreement as I have mentioned does not do this. It only stipulates that the tenant shall not do certain acts; if he does, then it is a breach of the agreement. An agreement not to do certain acts is no more an agreement depriving a tenant of compensation than an agreement providing a particular mode of cultivation, such as the four-course shift. It may be said, if the tenant does manure in spite of the

agreement, he has executed an improvement, and is entitled to compensation; under Section 1, and under Section 55, the agreement, so far as it deprives him of it, is void. The 5th Section, however, enacts that if an agreement provides fair and reasonable compensation for improvements mentioned in the third part of the First Schedule, then such compensation shall be substituted for compensation under the Act, and an agreement providing such compensation is expressly excepted from the 55th Section; so that, if the compensation for the manure laid is fair and reasonable, an agreement can stipulate how and in what way the tenant should manure the land, and that if he manures in defiance of the agreement he will not be entitled to compensation." That appeared to him (Mr. SHAW) a very bold proposition. He would not venture to dictate to a tenant what manure he should use or what he should do in the way of ordinary cultivation of the farm. The utmost he had done (and it was some years ago when the question of artificial manures was a good deal talked about) was this: a noble lord (the late Lord VERNON), whose name he need only mention to insure very great respect for everything he did and said, was very anxious in connection with a matter that he had to settle with him that he should stipulate that the tenant should go to a particular person to buy his manure, knowing from personal experience the great risk attaching to the purchase of artificial manure. The full extent he (Mr. Shaw) felt himself at liberty to go, after stating what compensation was to be paid under the agreement, was to provide that the landlord should in all such cases be satisfied that all such manure should be genuine and of good quality, and is purchased from reliable sources as might be agreed upon.

He agreed with Mr. BUND as to the importance of agree-

ments, which was a subject that might very well be discussed in a separate Paper. He had very carefully drawn agreements in connection with the Agricultural Holdings Act of 1875, and as far as he remembered, in that Act compensation was to be paid for manures and feeding-stuffs, but no scale was fixed, and he agreed with the tenants on the estates he managed as to the scale of compensation, and embodied it in an agreement. He would recommend that something similar should be done under the present Act.

There was only one other point in reference to agreements. As he said before, the procedure clauses for claims under the Act were very different from procedure for ordinary custom and ordinary valuation. Therefore he should make it a condition under the agreement that the same procedure clauses should apply in all cases. He would not have one mode of procedure in one valuation and another mode of procedure in another.

There was only one other question he desired to refer to. By Section 5, where there were at present agreements under the Act of 1875, or otherwise, those existing rights were reserved. That was his own case; but Section 61 stipulated that an existing tenancy should continue until the first day when notice to quit could be given: that is, a Lady-day tenancy, with 12 months' notice to quit, expired next Lady-day but one. Therefore, he presumed, at the expiration of that time, and at other periods under other agreements, the Act would apply under any circumstances. He considered all that would be necessary in his case would be to have an agreement prepared and settled before the time mentioned.

The two points to which he had endeavoured to call attention were the value of the improvements to an incoming tenant and the inherent capabilities of the soil.

He agreed that more safeguards were required against

claims that might be made by dishonest tenants. It was a matter of great importance and difficulty. He should also have liked some fair provision with regard to dilapidations. Many farms were at the present time in a most dilapidated state. He had been that day to see solicitors with reference to a farm which he valued twelve or thirteen years ago, and which was not worth so much now by 15*s.* an acre as at that time. He had come to the conclusion, after much consideration, that in all cases it was most important to have agreements, believing that without agreements they would be landed in the greatest difficulty. He thought, also, that these agreements should not be drawn just to meet the claims under the Act, but should also embrace everything that could possibly occur between a landlord and tenant, and that nothing should be left to custom or to the Act.

Mr. J. L. Pattisson (Fellow) had great pleasure in seconding the vote of thanks to Mr. Willis Bund for his very able Paper. It was a satisfaction to have so lucidly expressed the courageous views Mr. Bund held, and he, for one, was none the less grateful for the Paper, though unable to agree with all the author's deductions.

Reference had been made to agreements which could be entered into to get over some of the difficulties of the Act, but he hoped the mistake would not be repeated which, he felt, had often been made in regard to the Agricultural Holdings Act of 1875. It was frequently stated that such and such a landlord had contracted himself out of the Act of 1875. In reality it probably was not so, because usually agreements were inserted in the lease virtually to the same effect as the compensation clauses of the Act. But none the less the stigma remained, and in party warfare it was a constant reproach that landlords had contracted them-

selves out of the Act. All did not agree that the Act of 1883 was necessary, but the disposition of the Institution, when the subject was discussed last summer, was to consider the Bill a fair attempt to settle the difficult question of compensation for improvements apart from the extremes of either side. He was sure the feeling of those he was addressing would be, now the Act was passed, to try and carry it out honestly, and not to make evasive agreements, which would give people the right to say that landlords were again contracting themselves out of the Act of 1883.

In regard to several clauses he thought they would find this could be done. Take, for instance, that difficult clause about drainage. The Act said that if the tenant wished draining to be done, the landlord could do the work in the manner he thought best, and charge five per cent. per annum on the outlay, or make any special agreement with his tenant.

Mr. Shaw: Yes, in the case of drainage.

Mr. Pattisson replied that he was taking the case of drainage, and he might perhaps be allowed to allude to an incident which had already happened within his own experience, and which exemplified the difficulties of the Act on this point. A few days back, when going over a property under his management in Suffolk, where the soil was generally a heavy clay, and the tenants had been in the habit of bush-draining, he saw on a certain field some bush-draining in progress, the bushes being laid hardly more than 2 feet deep. No notice had been given to the landlord, or to himself as his agent, and he felt bound to point out to the tenant that within a month the new Act would come into force, that he could not advise the landlord to approve of

bush-draining, that on the contrary the landlord would more probably say that proper draining would be with tiles laid 4 feet deep and 18 feet apart. The tenant would most likely reply, "You do not mean to say that the landlord can make me pay 5 per cent. on the cost of draining at that depth and width?" But he (Mr. PATTISSON) felt that if the tenant insisted upon any draining, this alternative was certainly within the landlord's right under the Act, and he believed Mr. BUND would confirm him.

No doubt a few months' experience of the working of the Act, and the decision of some test cases that would soon arise, would solve many now apparent difficulties; but he, for one, would be glad to know whether, on the one hand, bush-draining as usually practised would be considered an improvement under the Act, and on the other, whether a landlord's counter-proposition to drain stiff clays at 4 feet deep and 18 feet apart would be held to be "fair and reasonable."

Mr. S. B. L. DRUCE (Associate) did not take the author's gloomy view of the Act. His own idea of it was that it was a fair compromise between two parties one of whom had been endeavouring to gain too much, and the other to concede too little. Considered in this light, the Act might fairly be regarded as hitting a happy medium—affording tenants the opportunity of obtaining fair compensation for those improvements which were enumerated in the Schedule to the Act, and protecting landlords from having to pay for anything of which they did not receive the value.

He quite admitted that the basis of compensation adopted in the Act of 1875 was easier of application, but he ventured to think that the new principle laid down in

the present Act was fair in character. Nothing could be fairer than that a man should be paid the value of what he had done to improve his holding, and this was what the outgoing tenant was entitled by the Act to obtain at the termination of his tenancy; in other words, such a sum as fairly represented the value of the improvement to an incoming tenant—not, be it observed to *the* incoming tenant, who might not want the dairy buildings referred to by the author, but to a general and ordinary incoming tenant; such a man, in fact, as offered himself in ordinary times under ordinary circumstances.

He feared that Mr. Bund was rather unhappy in his selection of dairy buildings to illustrate his views as to tenant's compensation, for it was quite clear that no tenant could be compensated, under this Act, for buildings, unless he had received the consent of his landlord to their erection, and when that consent was given was the time for the landlord and tenant to agree as to the compensation to be paid in respect of them. Neither was the author's next example, draining, more felicitous, for here again the Act, as had just been pointed out, contained a special section to meet the case. Draining stood, in the Act, in a category (if the expression was permissible) by itself, the part of the Schedule referring to it being headed "Improvement in respect of which notice to landlord is required," words which must be taken as part of the Act. The notice having been given, Section 4 of the Act expressly authorised the landlord and tenant to "agree on the terms as to compensation or otherwise on which the improvement is to be executed." Here again was the opportunity for the landlord and tenant to come to an understanding—a point which seemed to be overlooked by the author of the Paper. While he was on this section he might observe that he was

rather startled by an observation which fell from the last speaker, to the effect that a landlord and tenant could contract out of that part of the Act. He could only say that in company with two learned friends he had spent two hours that day in trying to find out how a landlord or tenant could contract out of that section, and they had come to the conclusion that it was absolutely binding. The question involved in the consultation was whether a new lease providing the ordinary compensation payable under the Lincolnshire custom for drainage done with the consent of the landlord would bar the tenant from making a claim under this section for drainage done without the landlord's consent, and they came to the conclusion that it would not do so.

He had hoped in the course of the evening to obtain some further light from the Members who practised as Surveyors and Valuers on the question of the "inherent capabilities of the soil." He confessed that the words beat him. The very fair attempt to interpret them that had been made by THE PRESIDENT in his excellent Opening Address referred only to "The Reclaiming of Waste Land," but he hoped also, before the discussion closed, to hear some opinions with reference to this question in connection with the improvements numbered 22 and 23 in Part III. of the Schedule, namely what, in each of those cases, was to be attributed to the capabilities of the soil and what to the manure? Here again, he thought, THE PRESIDENT had helped to elucidate the point. He remembered, when the Bill was under discussion at the Institution last year, THE PRESIDENT urged that it was not fair to consider all land merely at what had been called "prairie value"—to regard it like a block of marble which the sculptor worked by his skill and genius into a

beautiful statue, and to put the farmer in the same position as the sculptor. What should be considered was, is the soil good, or is it bad, in itself? Supposing no manure at all were put on it, would it grow good crops or bad crops? If the land is naturally good, it would be unfair that the whole value should be attributed to the manure, and the valuer should enquire whether, if no manure were put upon it, it would produce good crops, and, if so, should take the fact into consideration. The Institution would, he thought, be doing a great public service by throwing some light upon this obscure point in the Act.

He could not agree with what the author had said with regard to the interpretation to be put on Clause 5, which he looked upon as the most important clause of the whole Act, because he believed that the claims for compensation in respect of the improvements enumerated in Part III. of the 1st Schedule, to which alone this clause is related, would be far more numerous than the claims under both of the other parts put together. He agreed indeed that the wording of the Section was peculiar, and that it was hard to say what was its exact meaning. But he did not agree with Mr. Bund when he went on to say "if the agreement contains provisions giving fair and reasonable compensation, then the valuers are to adopt that compensation; if it contains no such provisions, then the compensation is in the valuers' discretion, while in every case it is open to the valuers to say if the compensation provided by the agreement is or is not fair and reasonable, and if they find it is not, they can set the agreement aside." He (Mr. Druce) ventured to think that it was not within the powers of the valuers or an umpire to set the agreement aside. It could only be set aside by an action at law, either in the

their adoption as a whole, in all agreements, as Mr. Shaw had recommended.

Lastly, he would urge here, as he had urged elsewhere, the absolute necessity for all contracts of tenancy between landlords and tenants of agricultural land being in writing.

The vote of thanks having being put and carried unanimously,

Mr. D. Watney (Fellow) moved the adjournment of the discussion to the next Meeting.

No. 202.

AT

THE ORDINARY GENERAL MEETING,

Held on Monday, 17th December, 1883.

THE PRESIDENT, MR. T. SMITH WOOLLEY, IN THE CHAIR.

The adjourned discussion on the Paper by Mr. J. Willis Bund, read at the Ordinary General Meeting of Monday, December 3rd, 1883, and entitled "The Agricultural Holdings Act, 1883," was resumed by

Mr. D. Watney (Fellow), who said that he regretted the gloomy view taken by Mr. Bund of the Act under discussion, which he was bound to regard as an honest though unsuccessful attempt to solve a very difficult question.

The main features of the Act were only four in number. The first (embodied in Section 33) related to notice to quit. The effect of the section was that where a half-year's notice, expiring within a year of tenancy, was formerly by law necessary and sufficient for the determination of a tenancy, a year's notice so expiring should, by virtue of the Act, be necessary and sufficient, in the absence of an agreement to the contrary. The adoption, therefore, of this first feature was optional with the landlord, though he might observe in passing that he (Mr. Watney) saw no objection to 12 months' notice being the rule and not the exception.

The next principal feature of the Act (Section 34) re-

lated to the tenant's property in fixtures, machinery, &c., erected by him. He failed to see that any alteration in this respect had been made in the law by the Act, except in the case of permanent buildings. The law, as he understood it, had always been that if a tenant put up fixtures, machinery, or buildings, he was entitled to remove them, so long as he did so without damage to the property to which they were affixed.

The next point, however, involved a complete alteration in the law. He alluded to the provisions relating to distress for rent, and he would particularly call attention to the *proviso* of Clause 44, by which it appeared that if in the ordinary course of dealing between landlord and tenant the payment of the rent has been allowed to be deferred until the expiration of a quarter of a year, or half a year, after the date at which such rent legally became due, then the rent shall be deemed to have become due at the expiration of such quarter or half year as aforesaid, and not at the date at which it legally became due.

The author had apparently been at pains to indicate ways in which it might be possible to contract out of various provisions of the Act, but he failed to see how, in face of the very definite words of Section 55, it was possible to do so. But the point on which they needed guidance was not how to evade but how to carry out the Act, and the only clauses that called for discussion (for the others seemed very simple) were those which entitled the quitting tenant to compensation for improvements made by him during his tenancy. Part I. of the First Schedule related entirely to improvements which needed the sanction and approval of the landlord before they could be carried out, and it might therefore be dismissed without comment. Part II. of the same Schedule, relating to drainage, was, he

thought, much more simple than had been supposed. Under Section 4 it was open to the landlord, after the tenant had given him notice of his intention to drain, to execute the improvement himself, provided he carried out the work *in a reasonable and proper manner*, and this gave the landlord a very wide latitude. He could drain, as had been said at the last Meeting, 4 feet deep and 15 feet apart if he liked, and he thought that 5 per cent. on such an outlay as this would involve was more than a tenant was really capable of paying.

But there was, in his opinion, another clause which left it in the choice of the landlord whether that draining should be done at all. He referred to Section 59, which enacted that "a tenant shall not be entitled to compensation in respect of any improvements other than *manures*" (which referred to Nos. 22 and 23 in Part III. of the First Schedule), "as defined by this Act, begun by him, if he holds from year to year, within one year before he quits his holding, or at any time after he has given or received final notice to quit, and, if he holds as a lessee, within one year before the expiration of his lease." It seemed to him (Mr. WATNEY) perfectly clear from that clause that if a tenant gave his landlord notice that he was about to do the draining, and the landlord thought it would be to his detriment, he could give the tenant notice to quit, and thus deprive him of the power to carry out such drainage. It would follow, as a natural consequence, that the landlord and tenant would make terms, as the tenant would have no option but to do so or vacate his farm.

But the most important points in the Act arose in connection with Part III. of the First Schedule, especially Nos. 22 and 23 in that Part, which related to the "application "to land of purchased artificial or other purchased

"manure," and to the "consumption on the holding by "cattle, sheep, or pigs, of cake or other feeding-stuff not "produced on the holding." Here lay the chief difficulties, and it was this point which called for the most careful consideration, if the Act was to be put into operation.

With regard to the procedure clauses, a tenant would, he thought, find it no easy matter in many cases to state on his notice of claim to compensation, as required by Section 7, "the particulars and amount of the intended claim," especially as regards the improvements numbered 22 and 23 in the Schedule: nor would the award be much easier in this respect. It was all very well to say there would be no difficulty in making an award, but a careful study of Section 19 would probably induce those gentlemen in the room who had had large experience in such matters to agree with his views on the point.

The section stipulated that "the award shall not award a sum generally for compensation, but shall so far as possible specify—(A) the several improvements, acts, and things in respect whereof compensation is awarded, and the several matters and things taken into account under the provisions of this Act in reduction or augmentation of such compensation; (B) the time at which each improvement, act, or thing was executed, done, committed, or permitted; (C) the sum awarded in respect of each improvement, act, matter, and thing"; and further enacts that "where the landlord desires to charge his estate with the amount of compensation found due to the tenant, the time at which, for the purposes of such charge, each improvement, act, or thing in respect of which compensation is awarded, is to be deemed to be exhausted." Was he wrong in thinking that this would puzzle a great many Surveyors, particularly if taken in connection with the words (Section 1), "In estimat-

ing the value of any improvement in the First Schedule hereafter, there shall not be taken into account, as part of the improvement made by the tenant, what is justly due to the *inherent capabilities of the soil.*"

As regarded the inherent capabilities of the soil, after what had been said by Sir JOHN BENNETT LAWES (whose experience extended over forty years), that it was impossible to say what the unexhausted value in the soil was six months, or nine months, or two years after the application of manure, it might, he (Mr. WATNEY) thought, be taken as fact that the ordinary tenant-right valuers, into whose hands these valuations would fall under the Act, would be unable to deal satisfactorily with matters of this kind.

He confessed that he took exception to what he might call the latent meaning of the Act, which seemed to him to imply that no farmer in the country had hitherto been in the habit of using artificial manure, cake, or feeding-stuffs, whereas the contrary was the case, and it was a well-established fact that no farmer could properly cultivate his holding unless he used, to a larger or smaller extent, artificial manures, cake, or other feeding-stuffs. It appeared an anomaly that a tenant who entered on a farm, say, last Michaelmas, and found the land in good heart and properly cleaned, and which had had plenty of artificial manure, cake, and feeding-stuffs used on it, would be entitled under this Act, if he left next Michaelmas, to heavy compensation, without reference to the state of the farm when he entered it. This was one of the anomalies perpetrated by the Act, and for which there seemed to him to be no justification whatever.

He had his fears again on another point. As a matter of fact there was no law in England at the present time fixing a judicial rental of land as was the case in Ireland; but it

seemed to him that Section 5 went perilously near to introducing such a law. The section enacts that "where in the case of a tenancy, under a contract of tenancy, beginning after the commencement of this Act, any particular agreement in writing secures to the tenant for any improvement mentioned in the third part of the First Schedule hereto, and executed after the commencement of this Act, *fair and reasonable compensation, having regard to the circumstances existing at the time of making such agreement*, then in such case the compensation in respect of such improvement shall be payable in pursuance of the particular agreement, and shall be deemed to be substituted for compensation under this Act." How was the landlord to know, when he was letting his farm, what a valuer (perhaps ten or a dozen years hence) and the umpire, appointed perhaps by the Land Commissioners, would say was fair and reasonable when the agreement was entered into? Take it in this way. Assume that a farm was let at £200 a year; that it was in fair condition when let; that the landlord paid a certain sum to an outgoing tenant for his unexhausted improvements, under this Act, over and above his tenant-right; suppose that the landlord said to the tenant (and it was recognised by the Act to some extent), "I will give you a lease or agreement to take this farm at £180 a year: I knock off £20 on condition that when you leave at the end of the tenancy there shall be no claim under the Act at all." Would that come under the first subsection in Section 6, which said, there should be taken into account "in reduction of the compensation payable to the tenant, any benefit which the landlord has given or allowed to the tenant in consideration of the tenant executing the improvement"? He was by no means sure that the arrangement would be covered by this subsection. It seemed to him

that it was all in the hands of the umpire to say whether that agreement was fair and reasonable, and it was, to his mind, a part of the Act which was very unsettling, and, he believed, would lead to doubt and difficulty in the future.

A section which appeared to him a very absurd one, was that which allowed the landlord, if he liked, or the tenant-for-life, to charge his holding with the amount paid for artificial manure, cake, and so on. It was a pretended boon, which in practice would be found worthless, and he did not see how such a charge in any sense could be made on the holding, having regard to Subsection 2 of Section 19.

In conclusion, he could not help expressing his disappointment, after the outcry made in recent years about the relief of land from its heavy burdens, that an Act had been passed which added additional burdens to those already imposed on it. It would be found, he believed, to be the outcome of the legislation under discussion, that it added a heavy charge for matters under Part III. of this Schedule, which could not be recoverable from any incoming tenant, and that it would introduce uncertainties into every tenancy, for the tenant who expended his money on the improvements enumerated in the third part of Schedule I., would never know what he would receive in respect of them when he quitted his holding. Under the old system he could calculate this with considerable certainty, being protected by the well recognised custom of the country, while under this Act he would be as uncertain as to what he would get as the landlord would be as to what he would have to pay. The general result, he was afraid, would be not only a great interference with the law of contract, but a serious disturbance of the harmony between landlords and tenants.

Mr. J. Martin (Fellow) wished to add his testimony to the value of the Paper under discussion. Agreeing with the observation which fell from The President in his Opening Address, that the Act in its main features was not unreasonable, and that, seeing it had passed into law, it was incumbent on Surveyors to give fair and full effect to its provisions, it seemed to him that a Paper pointing out clearly and exhaustively, as this did, the many difficulties in the way of a proper interpretation of the Act from a lawyer's point of view, must serve a very useful purpose.

Practically, he did not apprehend that the compensation clauses in the Act would in his own county (Lincolnshire) cause any serious trouble or difficulty to valuers or injustice to either landlord or tenant. First, because leases were almost unknown to them. Secondly, because at a Special General Meeting of the members of the Lincolnshire Chamber of Agriculture and the Lincolnshire Land Agents' and Tenants' Right Valuers' Association, held at Lincoln on the 30th ult., the scale of allowances which he now *begged to hand in* for the information of Members, was unanimously adopted as fair and reasonable compensation in substitution of the compensation under Part III. of the First Schedule to the Act.*

It would also be seen that, at the Meeting referred to, an

* *Agricultural Holdings* (*England*) *Act*, 1883.

Resolutions passed at a united Special General Meeting of the Members of the Lincolnshire Chamber of Agriculture, and the Lincolnshire Land Agents' and Tenants' Right Valuers' Association, held at the Old Corn Exchange, Lincoln, on Friday, the 30th of November, 1883.

Resolved—

That in the opinion of this Meeting it is desirable to adopt the undermentioned scale of allowances as fair and reasonable compensation under Part III. of the First Schedule to the Agricultural

agreement was come to as to the principle upon which compensation should be awarded under Section 4 of the Act, viz., Drainage.

He believed that this scale of allowances would be embodied in nearly all the farm agreements in the county of Lincoln, and, in that case, the landlords would be quite safe from any attempts on the part of unprincipled tenants to make Section 5 suit their own purpose; for no judge would, in view of this scale being generally adopted in the county, entertain any motion to set aside an agreement containing it.

Holdings (England) Act, 1883, to be substituted, *by agreements*, for compensation under the Act, viz.:—

1. For one-third of the cost of linseed-cake, cotton-cake, rape-cake, or malt-culm, and one-sixth of the cost of corn-cake, malt, or other manufactured feeding-stuffs of similar manurial value, which have been consumed on the farm during the last year of the tenancy; and for one-sixth of the cost of linseed-cake, cotton-cake, rape-cake, or malt-culm, and one-twelfth of the cost of corn-cake, malt, or other manufactured feeding-stuffs of similar manurial value, which have been consumed on the farm during the preceding year of the tenancy.
2. For the cost of dry bones used with green crops consumed on the farm as follows, viz.:—the whole cost (inclusive of railway or water carriage) if used during the last year of the tenancy, and half the cost if used during the preceding year.
3. For the whole of the cost of artificial manures, of approved manurial value, used with green crops consumed on the farm during the last year of the tenancy, and for the cost of railway or water carriage of the same.

   Provided that the allowances under Clauses 2 and 3 for the cost of bones and artificial manures shall not exceed the cost per acre of the two next preceding years.
4. For the cost of lime used on the land of the farm, including the cost of carriage, cartage, and spreading thereof, on a seven years' principle, that is to say, the allowance to be reduced by one-seventh part every year until the seven years have expired.

This was assuming that it was quite clear from the Act, as he thought it was, that it would not be in the discretion of the valuer to set aside an agreement on the ground that the compensation was not fair and reasonable, and that before a tenant could claim under the Act, he must set aside the agreement by action at law.

The adoption of this scale of allowances in farm agreements would also get rid of the necessity of defining the meaning of the words at the end of the first section of the Act which were exercising the minds of so many, "the

It is considered that the tenant does not receive any benefit for the first four years.

5. For the cost of claying, marling, or chalking the farm on a twelve years' principle, the whole of the cost being allowed for the first four years, and after that period one-eighth part to be deducted yearly for the remaining eight years.

6. For the cost of bones used on pasture land of the farm as follows, viz. :—

For dry bones on a ten years' principle.

For dissolved bones on a five years' principle.

7. For two-thirds of the cost of other purchased manures used on pasture land of the farm during the last year of the tenancy, and for one-third of the cost of any such manures used during the preceding year.

Resolved—

That in default of any agreement or undertaking, or in the event of any other failure referred to in Section 4 of the Act with regard to improvements under Part II. of the First Schedule, the following allowances are, in the opinion of this Meeting, fair and reasonable, viz. :—

For the cost of underdraining the farm, as follows :—

When the landlord finds the tiles and the tenant the labour, on a ten years' principle.

When the tenant finds both tiles and labour, on a fifteen years' principle.

(Signed) M. E. G. Finch-Hatton,
Chairman of the Lincolnshire Chamber of Agriculture.

Jas. Martin,
President of the Lincolnshire Land Agents' and Tenants' Right Valuers' Association.

inherent capabilities of the soil" ; and this, to his mind, was equivalent to eliminating the words altogether, as it was clear to him that they were intended to refer only to the second and third parts of the Schedule, and to prevent the outgoer from claiming, as the unexhausted value of his improvements to an incomer, the full increase in the value of his holding over and above the rent he had been paying, and without taking into account the proportion of such increase due entirely to the inherent capabilities of the soil, and which would not have resulted from the same improvements on a holding naturally endowed with a less capable soil. It was quite certain that they were inserted solely in the interest of the landlord, and as none of the improvements named in the first part of the Schedule could be made without his consent, and then, practically, on his own terms, it followed, as a matter of course, that he needed no protection of this kind against any claim by a tenant in respect to this part of the Schedule.

He would now consider some portions of the Act without reference to the safeguard which, he contended, they had in Lincolnshire already built up against unfair interpretations of the Act.

He had given his opinion that the concluding words to the first section did not and were not intended to apply to the improvements in the first part of the Schedule. If he was wrong, there would doubtless arise differences of opinion as to the sum which should be allowed for the inherent capabilities of the soil. But this would be only till the expiration of the current leases, and they need not be serious between two men desirous of arriving at a fair and honest valuation. He would go further, and say that, practically, it need not be necessary to estimate the value of the inherent capabilities of the soil. Section 1 said the out-

goer was to receive the value *to an incomer* of his improvements, and *not* the full improved value of his holding. The value to an incomer could not be put at a greater sum than the improvements would, under similar circumstances, have cost him up to the time of taking to them; all over that value was due to the inherent capabilities of the soil, which the section said he should not be paid for. And if this were adopted as the *basis* of compensation, what difficulty would be caused by the objectionable words?

He did not gather that any great difficulty was anticipated with regard to the allowances under the second or the major part of the third part of the First Schedule.

It was thought, however, that there was serious danger of the landlord being robbed by the extravagant use of artificial manures and feeding-stuffs. Now he (Mr. Martin) had rarely found this to be the case (and he had had very large experience in tenant-right valuations), for the simple reason that it did not pay a tenant to do it—he could not rob his landlord without robbing himself. A tenant did not buy bad artificial manure intentionally—it was not left for the incomer in its unused state—he bought the quality which he believed would produce the best crop of roots, and received its unexhausted value on quitting. He had to produce the bills for the manure and cake claimed for. The quantity used could be checked in many ways; and there was a limit to the quantity of cake he could use, as more manure than an incomer would require would be of no value to him.

Attention had been called by Mr. Bund to the objection to the principle of the Act with regard to fixtures, but the only difference the Act made was that, formerly, the outgoer could neither take away nor claim for any permanent building attached to the freehold, whereas he could now

either take away or be paid for it. This was an advantage fairly and slightly in favour of the outgoer, as it was seldom profitable to him to remove a building, and the incomer would take advantage of this fact to cheapen it to himself.

He quite agreed that the 1875 Act was a good and fair one, and if landlords contracted themselves out of it, it was not for the purpose of substituting worse terms for the tenants. It put tenants generally on a very fair and equitable footing.

Mr. J. E. Knollys (Fellow) said that Mr. Martin's excellent remarks had, to a large extent, forestalled the little he had to say, and had helped very much to clear up in his mind, and probably in the minds of a great many Members of the Institution, the difficulties which had presented themselves in connection with the carrying out of this Act. He felt personally obliged to Mr. Willis Bund for his able Paper, though he did not share his views, which were such as would naturally present themselves to a legal mind, and which it was most useful to have on record. Looking at the Act in the spirit in which he believed the great body of Members were ready to regard it—namely, as being, in the words of the Duke of Richmond, quoted by Mr. Watney, "an honest attempt to settle a difficult question,"—he could not but believe that in carrying it out, as instanced in Lincolnshire by Mr. Martin, there would be much less difficulty than had been supposed. As to the principle of compensation, which seemed to be the great point of objection on the part of Mr. Willis Bund—namely, that the value to the incoming tenant should be the measure of compensation to the outgoer,—it seemed to him, after all, that there was nothing new in that principle. The different allowances, such as the proportion of cake or

feeding-stuffs used, whether one-half or one-third, or whatever proportion it might be, had been hitherto awarded to be paid to the outgoer, because the incomer was supposed to receive that value. Where was the difficulty? The present practice was simply the readiest method which we had at hand of arriving at the value which the incomer was supposed to receive, and at the present moment, until a better guide was obtained than science had yet provided, he felt strongly in his own mind that nothing better could be done than to act in the manner which had already proved satisfactory; and this seemed to be the principle which had guided the agents in Lincolnshire in the course they had now adopted. If that were so it appeared that the great difficulty with regard to the third portion of the Schedule had been got rid of. Questions arising under the first part of the Schedule simply resolved themselves into a matter of arrangement between the landlord and tenant.

As to the second part of the Schedule—Drainage—the scheme which Mr. Martin had sketched out seemed to have met the difficulty; and, although the terms settled in Lincolnshire might not be applicable to other counties, yet the adoption of the principle seemed to him to meet all the points at issue. If this were so, where was the objection to the Act? No doubt, there were difficulties connected with it; but could any Act of Parliament be passed that contained no difficulties or that would meet the views of everybody concerned? It was an Act which had been passed by the union of parties, at a time when political feeling ran high, and it was generally admitted to be a fair compromise between opposing views. Few things, to his mind, could be more injurious to the landed interest than that, when the Legislature had practically put it into the hands of Surveyors to carry out this Act as

between landlord and tenant, an opinion should go forth from the Members of the Institution that the Act was unworkable, or would fail to give to the outgoing tenant that fair compensation which it was designed to secure him.

Mr. Clare Sewell Read (Visitor) said he had read with a certain degree of pleasure, not unmixed with foreboding, the able Paper of his friend Mr. Willis Bund, who, it must be remembered, being a gentleman of the legal profession, had probably put all the difficulties and all the doubts on the construction of the Act that a legal mind could conceive. He hoped, when the Act came to be practically applied, that some of those difficulties and doubts would be solved by the good sense of the valuers. The Act had done a great deal more than he (Mr. Read) wanted. His own view was that it would have been better not to have repealed the Act of 1875, but to have taken that Act as a basis—as the minimum of compensation which any tenant ought to receive, giving him by custom, lease, or agreement as much more as might be thought right. The Act of 1883 had, on the contrary, abolished every such law, abrogated every custom, and torn up every agricultural agreement that now existed, and had placed the farmer entirely at the mercy of valuers, in whom, by the way, he had the greatest confidence; but then it should be remembered that their decisions were liable to be reversed on some technical point of law, and it was the decisions of the law courts that he dreaded more than those of the arbitrators or valuers. What the tenants wanted was some sort of notion as to the measure of compensation they would receive for their unexhausted improvements. In Lincolnshire, which was the cradle of tenant-right, they had taken the bull by the horns and set an example of what should be done in

other counties. If he were the tenant of a farm in Lincolnshire and had expended a ton of oil-cake on the farm during the last year's tenancy, he would know if he gave £9 for that cake (which was about the present value), that he would receive on leaving the farm £3 a ton, but he had not the slightest notion what he would receive in Norfolk. A scientific chemist might set up as a valuer and estimate the value at one half, while some practical common-sense valuer might give a sixth only. Therefore it was necessary, above all things, for the tenant to have some idea as to what he was going to receive as compensation, and that it should be settled on some such scale as Lincolnshire, though it made all the difference when applied to Michaelmas holdings.

It appeared to him unfortunate that the Act should abolish the useful restrictions of the Act of 1875—among others that a man should not claim twice over for the same thing, that the compensation for the last year's fertilisers should have some relation to the average expenditure of the previous two years—restrictions which he considered most essential. These were intelligible principles, for which the present Act had substituted a mere bundle of legislative phrases—some of them almost moral and religious, the interpretation of which was left to be decided by the gentlemen he saw before him. It had not been said that there was anything in the Act which specially favoured the sitting tenant, and he was glad that it had been framed on evidently just and sound principles. The Government of the day had, he thought, steered fairly between the two opposing parties—between the non-surrender party, represented by the Property Defence Association, on the one hand, and the extremists, represented by the Farmers' Alliance, on the other.

He had a great regard for the sitting tenant, but he did not see how the sitting tenant could have his cake and eat it too. Nor could he see how it was possible to compensate him, without letting in, in some degree, the principle of a judicial rent, which, he feared, would be much to the disadvantage of most tenants. He had been called "old-fashioned and narrow-minded," because he had contended, with regard to improvements of the kind set out in the third class of Schedule 1, that compensation should be based on expenditure—that is, on the proper average expenditure of the last few years. But to attempt to go into the question of the application of every ton of cake or manure that was expended on the holding during the last year of the tenancy was, in his opinion, perfectly absurd; for a ton of cake consumed on the land by sheep during the wet months of November and December, would not be worth as much as a ton consumed in the spring, and a clever chemical valuer would probably be prepared to go into still nicer distinctions.

As he had said before, he had faith in the good sense of practical valuers, and he believed that, although the tenantry were delivered to them bound hand and foot, they would look to them with confidence to do justice between themselves and their landlords.

Mr. E. P. Squarey (Vice-President) said he shared the startled feeling incident to the reading of the pessimist views of his friend Mr. Willis Bund, but he felt that the Institution was compensated by the able way in which the possible construction of the Act of 1883 had been dealt with by Mr. Bund, and specially as it elicited the admirable discussion which had followed, and was yet to follow. He was, by birth, education, and the experience of a long life, one of the unfortunate frogs who was dissatisfied with the ruling of

King Log! He shared, he confessed, the dissatisfied feeling which was the parent of the Act of 1875,—that there was yet a higher and more just and effective relationship to be arrived at between landlord and tenant,—and although his friend Mr. Willis Bund had emphatically interpreted that the government of King Stork was to rule so disastrously for the future under the Act, yet he had some faith that his foreshadowed tyranny would be sufficiently modified by the valuers on whom Mr. Clare Sewell Read said he relied, for their exercise of excellent common sense and their disposition to do that which was right and just to secure to the tenant-farmer not only what he was reasonably entitled to, but to do justice to the landlord also.

He thought the point before the Meeting incident to the Paper of Mr. Willis Bund was the question of principle involved in the Act of 1875 as against that of the Act of 1883. It seemed to him that up to 1875, and equally up to 1883, results did not in all cases confirm the soundness of the lines on which up to those dates agricultural valuations were made. In many instances (and he was by no means sure that those conditions would altogether cease under the Act of 1883) there were differences of opinion as to whether the landlord or the incoming tenant was paying, or the outgoing tenant receiving, too much or too little.

He thought that the principle of paying for actual value by the incoming tenant was a far sounder principle than the application of a hard-and-fast line of paying one-third or one-half for the cake, as the case might be, or a certain proportion of cost for artificial manures which might be used, and which might be of uncertain value and quality at the outset. He was pleased to hear the illustration that had been given by Mr. Clare Sewell Read on the manurial value of cake consumed in one year as compared with that which might

be used in another year. He thought the Meeting would be with him when he said that, if it pleased Providence to send forty inches of rainfall in a particular year when a ton of cake had been used, the manurial value of that ton of cake could not be worth what it would be under the ordinary average rainfall of thirty inches. Surely a ton of cake used in the abnormally wet districts of Cornwall, Devonshire, and Wales was not of the same value as it would be in Lincolnshire, Cambridgeshire, and Norfolk. These conditions should be taken into account, and he confessed, having acted under the guidance of his excellent teacher and partner Mr. Rawlence, he would submit, with every confidence in their sense of justice and right, the consideration of the question of manurial value to the tribunal which the Act of 1883 afforded.

There was underlying Mr. Willis Bund's Paper, as it appeared to him, an impression that the work of valuing under the Agricultural Holdings Act of 1883 was a new duty. With all deference, it appeared to him to be simply an old and customary duty, in the discharge of which a larger responsibility was thrown on the valuers. Throughout all time it had been necessary for some independent party or parties to come to the fore and say what was fair and right between the outgoing and the incoming tenant. Lincolnshire had defined its own custom. Wiltshire, Dorsetshire, and Hampshire had defined their customs, and other districts had defined their customs; and the valuers had simply been men who, according to their lights and with greater or less ability, had discharged the duties committed to them. Under the Act of 1883 a larger responsibility was thrown on these valuers, and he believed they would educate themselves to be fit for, and properly to discharge, the duties which they were called upon to fulfil.

There was this improvement on the old system (and this was always a grave difficulty where a question of obvious importance was involved in a valuation), that in the present case, instead of the choice of umpires from names put into a hat, or by reference to the cumbersome and costly procedure of the Common Law Procedure Act for the appointment of an umpire, the appointment of a properly skilled and independent man was remitted to the Land Commissioners, in whom they would have the greatest confidence.

If the question of manurial value of the cake was of importance, and was affected by climatic influences, surely much more largely was the question of applied manures. The value to the incoming tenant of those items surely depended mainly first on their actual chemical value, and secondly on the conditions under which that manure had been applied. His friend Mr. Watney had suggested, and it had also been referred to, he thought, by Mr. Druce, that Sir John Bennett Lawes' experiments and results implied doubt and hesitation in defining what was "manurial value" in each specific case; but he Mr. Squarey appealed to those who had had anything to do with the actual settling of questions between outgoing and incoming tenants, whether the whole adjustment of these questions was not rather an approximation to justice than an absolute mathematical expression. It was for that reason that farm-valuers as a rule were exceptional men, and not of the ordinary class. Every farmer would be a farm-valuer if it were not requisite to find a man specially able and honest to perform those important duties. He felt that a valuer being appointed by the incoming tenant and by the outgoing tenant, with the opportunity of either party having the

choice of an umpire appointed by the Land Commissioners was as nearly a sound basis to secure a just settlement as could be arrived at under human conditions.

Reference had been made by Mr. Willis Bund to claims for nitrogenous manures as affording a special opportunity of wrong on the incoming tenant, but he thought if one thing was more certain than another it was that no valuer with the least conscience or character would ask for compensation for nitrogenous manure after a corn crop. (A voice, It has been done.) He answered, yes! but without any result to the tenant.

He had intended to remark on the feeling that was apparently implied in the Paper, and also by the subsequent speakers, that the interest of the landlord was unduly prejudiced by the Act, and that it was generally a legislative instalment in favour of the tenant at the cost of the landlord, but the views so ably and happily expressed by Mr. Sewell Read rendered unnecessary any further intrusion on their time in that direction.

Mr. P. D. Tuckett (Fellow) said that he had taken some interest in this legislation from the beginning, but, after the discussion that had taken place, he would at this late hour confine his remarks to two or three points which had not yet been discussed.

He fully concurred in thanking Mr. Willis Bund for the valuable information contained in his Paper, which would be extremely useful, but he must add that he thought him rather a pessimist critic of the Act, and that some of the expressions, such as that as to its ruining landlords, were very strong, and whatever fears he (Mr. Tuckett) and other Surveyors might have ventured to express as to the possible

effect of some parts of the Bill, while it was only a Bill, he thought it would be felt, now that it was the law of the land, that, whether it were a good or bad Act, it was a plain duty to endeavour to carry it out fairly, and to give the tenant-farmer all the security for his outlay which the Act was intended to ensure to him. The time had hardly come when any one could predict all the points that would arise in valuations under the Act, and it was very likely there might have to be cases before the courts before they would know all about it; but there was one present duty now claiming the immediate attention of the land-agent, and that was to consider what (if any) changes this Act made requisite in the preparation of agreements for letting land. It appeared to him that it would be necessary to be much more careful in future in the preamble, in reciting the whole of the considerations of a letting. Mr. SHAW mentioned a case of great injustice as likely to occur on the expiration of some leases now current, where a landlord had leased farms at very low rents, because the tenants had agreed to improve their condition, but the leases contained no evidence of such consideration; and he pointed out, as he believed Mr. BUND also did in one part of his Paper, that such tenants would have it in their power to be paid twice over, because they could disclaim the original consideration in reduced rent if they were dishonest enough to do so, although Clause 6 certainly provided for the valuers taking such consideration into account if it be proved. That might be so as to leases and agreements now current, but it would be the duty of those who prepared new ones to see that it was not so in future. There were many farms at the present time much out of condition, and landlords willing to take reduced, if not nominal, rents from good tenants, who would undertake to clean and manure them, and bring them into heart again.

When any such bargain was made, it would be needful in future to fully set it out in the agreement.

It also occurred to him that it might be desirable in many cases to record, whilst the landlord and tenant were agreed about it, what was the state and condition of the farm at the beginning of the occupation. If the whole of the land was in good heart and condition, or had all been well drained, it might be well to record the fact, or the exceptions to it, where there were any. Sometimes a tenant would so neglect his ditches that the drain outfalls became stopped up to the degree that all knowledge of the drains might be lost, and parts of the land seem as wet as ever. Under such circumstances, it was even possible that new drains might be dug where they were not at all needed. It seemed rather doubtful at present, and he should much like to hear what other land-agents thought, whether it was worth while to encumber all agreements with a whole schedule of every possible allowance to be made, instead of the compensation provided by the third part of the First Schedule to the Act. He had received some days ago, through the kindness of a Lincolnshire farmer, one of the printed papers which Mr. Martin had just read, and which he had stated would soon be embodied in every Lincolnshire agreement. It seemed to him that, if the whole of that document had to be added to every agreement, it would be providing for marling, chalking, and other operations which would not be likely to apply once in fifty times, and would become very cumbrous; and the question was whether, after all, it would make any practical difference,—when the county valuers had settled on a scale of allowances, whether any umpire would be likely to give any other award where an agreement was silent on the point. That some such practical scale of allowances should have been agreed on by the

valuers was, no doubt, an excellent thing, but he should have thought that one of the advantages should have been to relieve agreements of such details.

A valuable suggestion had been made by Mr. Willis Bund about the possibility of covenanting against the tenant manuring beyond a certain extent. In ordinary agricultural tenancies, which seemed to be the only ones that interested most of the previous speakers, it would probably be an undesirable thing to interfere with a tenant in this respect, but it seemed to meet the case of the startling amendment made in the Act at the last moment, by including market-gardens (in Clause 54); but which, if Mr. Willis Bund was right, might cease to have any disastrous results. London was enclosed in several directions by tracts of market-garden land, all prospective building land, yet often manured with a dressing which would amount to as much as £50 an acre, and even more. It seemed possible that when the time came for letting for building, and the market-gardener tenant received notice to quit, if his horses happened to be idle at the time, it might suit him to haul upon the land manure to the value of £50 an acre, or even more, and leave the owner to pay for it, as it would be worth that to an incoming tenant of the same class, though worthless to the builder, and rather injurious than otherwise to the future occupiers of the houses. Now if Mr. Bund were right in holding that an agreement with a market-gardener never to put more than £10 or £20 worth of manure per acre on the land, would prevent his claiming for a larger amount, it would remove a great injustice. It would be absurd for him to argue a legal point with a learned counsel, but he would just like to ask Mr. Willis Bund whether the excess of manure would not have to be valued by the valuers, and any damage for breach of the

agreement separately estimated as a set-off under Section 6; because, if so, it would be needful to prove the actual damage to the satisfaction of the valuers, and it might or might not be found to neutralise the claim.

Where land was let on a yearly tenancy, with power to take portions only for building, at one month's or one week's notice, there seemed a little obscurity as to how the Act would apply. As a yearly tenancy, it would be a contract of tenancy under Clause 61; but as to the part value, it would be a determination of the tenancy under Clause 1, and if the tenant be entitled to compensation, there would be a difficulty in his giving the two months' notice mentioned in Clause 7. This was a common case round large towns, and he should be grateful to Mr. BUND for any light he inclined to throw upon it in his reply. Mr. WILLIS BUND, and several of those who had followed him, seemed to feel a difficulty about the words added to the 1st section, about the inherent capacities of the soil, and Mr. MARTIN alone seemed to him to have seen their true significance. He (Mr. TUCKETT) held in his hand a print of notices of amendments to this Act when in committee in the House of Commons, from which it appeared that both Colonel NIGEL KINGSCOTE and Mr. CHAPLIN proposed to amend that clause by leaving out the words "such sum," and insert "so much of his outlay," so that it would read, "the tenant is to be entitled, on quitting his holding, to so much of his outlay as fairly represents his improvement."

That amendment was negatived, but they eventually procured the insertion instead of it of the words "That in estimating the value of any improvement in the First Schedule hereto, there shall not be taken into account, as part of the improvement made by the tenant, what is justly due to the inherent capabilities of the soil." He should be

prepared to maintain that that addition to the clause had practically pretty much the same effect as Colonel Kingscote's and Mr. Chaplin's amendment would have had, and confined the compensation within the amount of the outlay as a maximum. Take a simple illustration, and a very extreme and impossible one, for the sake of simplicity. Imagine an acre of flat land with a fall from it to some lower land, but cut off from the latter by a little bank (natural or artificial) which caused this acre to be a swamp, or covered with six inches of water, and not worth a shilling a year. Imagine the tenant (after giving two months' notice to his landlord) laying a drain through this little bank at a cost of only a few shillings, by which the water was all let off, and the acre became worth £1 a year. Those who inserted these words in the Act probably thought that such a tenant might allege that he was entitled to capitalise the increased annual value, and claim £20 or £30 for what had not cost him so many shillings, and but for these words one sees nothing in the Act to prevent it. But now the landlord or incoming tenant (and not the outgoer) is entitled to the profit resulting from the inherent capacity of the soil, and thus the value to the incoming tenant was what it would have cost him to do the work if it had not been done before his time. It was worth to him only the few shillings that it cost. There might, no doubt, be a question as to one season's crop, or something of the sort, whilst the work would have been in progress and the land drying, but he had omitted that as not affecting the principle of the illustration. Apply the same principle to manuring, and it would be seen that an outgoer could only be entitled to the equivalent of the cost of the manure left in the land, that is, the sum of money by spending which in manure, the incoming tenant might be supposed able to do as well

for himself. That would be the maximum, because if the result attained was more than this, it must be due to the capabilities of the soil.

On the other hand, if it were less, that would be through the want of judgment of the outgoer, and he would suffer.

This relieved the valuers from ever having to consider what a farm was worth to rent either at the beginning or at the end of the tenancy, and got rid of many of the complications and difficulties which would otherwise have beset them, though, no doubt, it had not removed them all.

He (Mr. Tuckett) therefore thought the valuers should be grateful for these words about the inherent capabilities of the soil, and he was at a loss to understand why they should be considered obscure.

One little temporary point arising out of the Act seemed likely to puzzle some tenants and others. When must a notice to quit be given in order to terminate a tenancy at Michaelmas next? As he read the Act, twelve months' notice to quit must be given after it came into operation; but before the commencement of the Act, a six months' notice would still be sufficient. If so, a notice served on the 31st instant would be a good one, and one served on the 1st of January next a bad one.

Mr. W. J. Beadel (Vice-President) desired to draw the attention of the Meeting incidentally to a case of compensation in which he happened now to be concerned under the 1875 Act, where trustees were interested who resided in the Isle of Man. They did not contract themselves out of the Act. The farm contained 75 acres, at a rental of £2 an acre, = to £150 a year. Notice to quit had been given to terminate on the 25th of this month. A claim for compensation had been sent in, amounting to £652, and

the landlords had to face that at the present time. These facts might enlighten gentlemen in discussing the Act of 1883 at the next Meeting.

On the motion of Mr. J. Dale (Professional Associate), the discussion was then adjourned until the next Meeting.

No. 203.

AT

THE ORDINARY GENERAL MEETING,

Held on Monday, January 14th, 1884.

THE PRESIDENT, MR. T. SMITH WOOLLEY, IN THE CHAIR.

The adjourned discussion on the Paper by Mr. J. Willis Bund, read at the Ordinary General Meeting of Monday, December 3rd, 1883, and entitled "The Agricultural Holdings Act, 1883," was resumed by

Mr. J. W. Dale (Fellow), who said that he felt some diffidence in addressing the Meeting, after the admirable speeches which had been made on this somewhat difficult Act on the previous occasions. He thought its general spirit (if he might say so, after it had been so expressed by Mr. Watney) appeared to show a fair and liberal desire to deal with the question, but he could not think the method adopted in carrying it out was free from objection. It seemed to him to have been framed upon somewhat the same principle as it was said that the 39 Articles were framed on—namely, that the parties, not being able to agree upon a single statement of the tenets, accepted a compromise, that each should, in a separate clause, state his own particular dogma, leaving the general effect to be deduced as it best might be. By way of exemplification: Section 1 laid down the broad and general view that where a tenant had made any improvement under the 1st Schedule, he was entitled to compensation. That was a general proposition applying to leases, and to agree-

ments, and to improvements executed both before and after the Act. This was obviously in favour of the tenant. Then followed the proviso as to the inherent capabilities of the soil, which, on the other hand, was inserted in the interests of the landlord by way of cutting down the preceding general provisions.

The precise meaning of it was difficult to grasp, and, as stated by Mr. MARTIN, was exercising many minds. The very lucid and ably-conceived construction placed upon the proviso by Mr. MARTIN carried the conviction to his mind, as well as to that of Mr. TUCKETT, and probably many others, that he had hit on the true intentions of the framers of the Act. He entirely agreed with Mr. MARTIN that, as none of the improvements under the first part could be done without the consent of the landlord, and on his own terms, he needed no protection against any claim under that part. He (Mr. DALE) also agreed with Mr. MARTIN's statement—that it was obvious that the proviso was intended to refer "only to the second and third parts of the Schedule." At that time he had only considered the words of the Act, but what was his horror, on referring to "Hansard," to find a statement by the Lord President of the Council, who had charge of the Bill in the Upper House, that the proviso was originally confined to Part I., that it was afterwards extended to Part II., and that it was only extended to Part III. after it left the Commons, upon an amendment proposed and carried by the Duke of RICHMOND. Nevertheless, as the Act stood, the proviso extended to all three parts of the Schedule, and they had not heard the last of the inherent capabilities of the soil. It would, doubtless, have been clearer if the Act had provided that the compensation payable to the tenant should not exceed his outlay. The object of the promoters of the Bill was felt to be to give to tenants an interest in the soil and in the so-called unearned

increment; an object which the landlord interest had endeavoured to circumvent by the words of the proviso,—whether successfully or not time alone would show. If the valuators in every county took the same practical and sensible view as the valuators in Lincolnshire, it would have the effect, as Mr. MARTIN had said, of eliminating the words altogether. But he feared the Act was capable of a more far-reaching and sweeping construction. Landlords appear to have thought that "Where the fox had once "got in his nose, he would soon find the means to make his "body follow."

The Act, as he (Mr. DALE) had already said, seemed objectionable in point of form. The chief part of it consisted in numerous provisions cutting down one short principle; and the exceptions were much more numerous and extensive than the general rule. Sections 2, 3, and 4 made provisions in favour of the landlord, cutting down the benefits given to the tenant under Section 1. Section 2 he considered to be somewhat objectionable, raising as it did exception to exceptions, on the principle that two negatives make an affirmative. Section 3, relating to improvements under the first part, provided that compensation was not to be payable to the tenant unless the consent of the landlord had been given; but by Section 34 the tenant was entitled to remove fixtures and buildings that he had put up during his tenancy, for which he was not entitled to compensation, unless he received fair value from the landlord. So that where a landlord withheld his consent, under Section 3, the tenant might run the risk of putting up buildings and fixtures on the chance of getting a fair value from the landlord or incoming tenant; and, as but few incoming tenants, after inspecting the buildings and farm before finally agreeing the terms of the tenancy with the landlord or his agent, would be willing they should be removed, it would

result that by this means considerable pressure would be put on the landlord to pay compensation for such improvements. He was inclined to think that by Section 55 a tenant was only restricted from contracting himself out of his right to compensation to the improvements mentioned in the Schedule to the Act, and that there was no reason why a landlord should not contract himself out of Section 34, as to fixtures, and say that it should not apply to the tenancy. It was, in his opinion, the landlord's, and not the tenant's, duty to put up such buildings and permanent fixtures as were requisite to the holding, charging interest on the outlay, unless agreed upon at the time of entry, or for some special consideration to the tenant. On the other hand, a landlord was entitled to use all power within his grasp to prevent any superfluous outlay in this respect by the sitting tenant.

Any observations as to the clauses relating to drainage he considered superfluous, for, although opinions had been expressed to the contrary, the Act placed landlords on a far better footing than they were on before. Speaking generally as to valuations of the improvements under Part III., it was in the uncertainty that the rub lay. As provided by the Act, there was no hard-and-fast rule, unless it was by an agreement that would hold water, as to what might be considered fair and reasonable compensation; and both landlords and tenants must abide by the awards of the arbitrators. He saw no reason why landlords and those interested on their behalf should fear the results of such awards.

It had been suggested that valuators might interpret the term "inherent value" as follows:—If a farm were let at £1 an acre, and at the termination of the tenancy it could be let at £2 an acre, there was danger of an amount being awarded to the tenant equivalent to 20 or 30 years' purchase,

on the increase of rent. For his part, he anticipated no such result. There was no reason why the valuator should know or inquire whether the rent be 5*s.* or 40*s.* an acre; but it was their duty to obtain by reliable evidence, such as the production of vouchers, the amount of the outlay, and to award fair and reasonable compensation for the improvements effected by such outlay. How could this be better ascertained than by obtaining evidence as to the cost? The incoming tenant could give rebutting evidence as to what the outgoer had had out of it, and could give further evidence that he could have executed the improvements at a less outlay. How many other classes of compensation cases were there, the issue of which had to be decided by gentlemen in that room, with, he hoped, no unsatisfactory result. And he saw no reason why, in conflicting claims between landlords and tenants, the same procedure should not be followed by equally satisfactory results.

Passing on to Section 5, which he considered one of the most important sections, dealing as it did with substitutional compensation, he considered Paragraph 3 of this Section most difficult to construe. The first paragraph of Section 5 dealt with a current tenancy, and said, that where any agreement in writing provides specific compensation for any improvement in the First Schedule, that compensation should be substituted for any under the Act.

It would be noticed that the compensation was to be *substitutional.* Paragraph 2 was also "*substitutional.*" It provided that, under a tenancy created subsequent to the Act, "*a particular agreement in writing,*" securing fair and reasonable compensation under Part III. of the First Schedule, should be "*substituted for any under* the *Act.*" Under both paragraphs, therefore, the compensation would be obtained under an "*agreement,*" and not under "*the Act.*"

Paragraph 3, which he described as difficult to construe, said that the second paragraph should apply in the case of a tenancy under a contract of tenancy "*current*" at the commencement of the Act, in respect of an improvement mentioned in the third part of the First Schedule, specific compensation for which was not provided by any "*agreement*" in writing, or custom, or the Agricultural Holdings Act, 1875. But, as he said before, the compensation in Paragraph 2 was *substitutional*—that was, such as could be got under the "*agreement,*" and not under the "*Act.*" Paragraph 3, therefore, purported to provide that, where compensation under the third part was omitted by the agreement, the tenant should, nevertheless, get it by the agreement; or, in other words, he would get under the agreement what was not in it. That appeared to him to be a fair criticism upon the actual words of the paragraph. Nevertheless, he thought a meaning was to be found for it, if not extracted from it. The paragraph was added by the Lords as an amendment moved by the Lord President of the Council, who had charge of the Bill in the Upper House, and it was, therefore, presumably well considered.

The intended meaning seemed to him to be that, where the terms of a tenancy, current on the 1st January, 1884, do not provide specific compensation for the improvements mentioned in the third part of the Schedule, there might be a new agreement, in writing, collateral to, and read in part with, the old terms, specifically providing fair and reasonable compensation for the improvements under the third part of the Schedule; and where that was done, such compensation should be considered substitutional. But, apart from the difficulty of attaching that meaning to the words of the paragraph, a further difficulty arose on this interpretation. Paragraph 2 of Section 5 expressly confined itself to improve-

ments executed after the 1st January, 1884, so there was no provision where substitutional compensation could be agreed upon for improvements executed before 1st January, 1884. If that were the true construction, substitutional compensation, at least as regarded improvements effected after 1st January, could be provided by a short collateral agreement without altering the old agreements in other respects; just as a codicil could be added to vary a will. It would be noticed, and it was an important point, that the substitutional compensation in Paragraph 2 must be "*fair and reasonable*"; in this respect it differed from Paragraph 1, where the compensation is substitutional, however unfair or unreasonable.

By Section 61, Paragraph 2, a current Michaelmas tenancy would remain a current tenancy until Michaelmas 1885, that being the first day on which the tenancy could be determined, therefore it would remain a current tenancy, under Paragraph 1, Section 5, up to that date; after that it would be a subsequent tenancy. Therefore, up to that date compensation would be substitutional, whether reasonable or not; after that it would (so far as regards Part III.) have to be both fair and reasonable. The necessity, therefore, of looking into the terms of present agreements was obvious. Leases, however, which gave compensation, stood on a better footing, as not being changed or determined by Section 61; the agreed compensation was substitutional, however unfair or unreasonable.

An important question arose on the wording of Section 6—as to whether a sum due from a tenant for rent could be deducted from a sum due to a tenant for compensation. Section 6 said that where it was ascertained compensation was "*payable to the tenant,*" there should be taken into account the benefits allowed by the landlord for manuring land, crops, and so forth. It would be noticed that the

words were "payable to the tenant," and not "payable by the landlord or incoming tenant"; and it was at least doubtful, on the wording of the section, whether a sum payable to the landlord for rent could be set off against a sum payable by the incoming to the outgoing tenant for compensation, where the landlord was no party to the arrangement. In the case of *Long* v. *Syrratt*, it was decided before Mr. Justice FIELD that a sum could not be set off where the landlord was no party to the valuation. Therefore, the necessity of making the landlord a party to the valuation was of the greatest importance.

With regard to Section 23, Mr. WILLIS BUND had drawn a lamentable picture of a county court judge trudging over a farm after it had been inspected by professional arbitrators, and reviewing the amounts awarded by such arbitrators. Mr. BUND said: "The personal examination "of a farm by a county court judge will not tend to give "confidence to the reversal of a decision of men who may "be the best agriculturists of the day." He ventured to think Mr. BUND had misapprehended the effect of the section. The section limited the appeals to the points specified in the four subsections, and those only permitted an appeal upon legal points, and not upon the *quantum* of compensation. The points on which an appeal might be made were: 1st. The validity of the award; 2ndly. The improper application of Sections 3, 4, and 5; 3rdly. Where compensation was awarded for heads not properly the subject for compensation; 4thly. Where compensation was not awarded for heads properly the subject for compensation. So that the interposition of the judge did not necessitate his viewing the farm at all. On the contrary, if there were any mistake or omission in the award, the latter part of the section directed the judge to remit the case to the arbitrators, and not to attempt to make an award himself.

He could in no way vary the amount, but must either strike it out altogether or direct the arbitrators to fill in such amounts as had been improperly wholly omitted. In the same manner an appeal to the higher courts was only on a question of law.

In further support of his (Mr. Dale's) criticism of the method adopted to carry out the general principle of the Act, he would refer to Sections 8 and 24. Section 8 said that the landlord and tenant might agree on the amount and mode and "*time*" of payment of the compensation to be paid under the Act. If the section stood alone, it appeared that a time for the payment of compensation might be agreed upon. But if that were so, the effect of the Act might practically be avoided, because a distant time, say, fifty years from the assessment of the compensation, might be appointed for payment without interest. But by Section 24 the amount could be recovered upon a judgment of the county court, if not paid within fourteen days. Mr. Willis Bund had pointed out that, unless a tenant gave two months' notice of his intention to claim compensation, he lost his right altogether; and where a landlord re-entered a farm under a breach of covenant, the tenant lost the two months within which he could give the necessary two months' notice. It had also been pointed out that by Section 55 an agreement depriving a tenant of his right to compensation was null and void. But it was not provided that a tenant should not agree not to make any improvements upon which he could claim compensation; and it was a very difficult question whether the Act could or could not be avoided by a provision that he should do no act entitling him to compensation.

He (Mr. Dale) did not advocate that this Act should be avoided, either by the ingenuity of counsel or surveyors, but, on the contrary, that it should receive their loyal but circumspect support; and he believed the courts would (and rightly so, too)

put their foot down upon any attempt to evade the Act by a side wind. He would say, in conclusion, that he regretted that the clauses relating to distress had not received further attention, because the provisions therein affected the interest of the landlords and those who represented them, at the present time, more than any other provisions in the Act, and he thought it was a doubtful point whether Section 44 referred to anything more than the common law powers of distress.

Mr. W. Sturge (Past-President) said that after the very prolonged discussion which had taken place he did not propose to go into the Act in great detail, but to confine himself to one or two salient points. He confessed that he was one of those who had no great admiration for the Act. He thought it inferior to the Act of 1875, which was on the whole a very fair and reasonable measure between landlord and tenant. But whether they liked it or not it had become law, and must be taken for what it was worth, and he entirely agreed with the observation made by the last speaker (Mr. Dale), that it was the duty of Surveyors to assist, with all their influence, in carrying it loyally into effect. A very eminent agriculturist (His Grace the Duke of Richmond and Gordon) had said that the Act was, in his opinion, an honest attempt to settle a difficult question—words well worthy of the consideration of the Members of the Institution.

The first point he proposed to call attention to was Section 1. He confessed that when he first read that section it staggered him, but after a while, when he came to look at it a little more attentively, he came to the conclusion that it was not so formidable as it appeared to be. The effect of the section, as regarded the improvements enumerated in Parts I. and II. of the Schedule, might be dis-

missed, as the consent of the landlord was required to their execution in order to entitle the tenant to compensation. But then came the question as to the improvements in Part III. to which the consent of the landlord was not required, and the compensation in respect of which was subject to deduction for the inherent capabilities of the soil. He did not see any great difficulty under this head. It struck him that the value to the incoming tenant of any of the operations described in the third part of the Schedule could not possibly be greater than the outlay at which the landlord or the incoming tenant could execute them himself. He had certainly been alarmed at the thought of 100 valuers putting their different interpretations upon that clause, but he did not consider it possible to arrive at any other conclusion than that the value of the improvements could in no case exceed their cost, deducting therefrom the proportion which had been exhausted. He thought that view of the case cleared the clause of much of its difficulty, and he confessed that, after looking at it from that point of view, he was not very much alarmed about it. On the other hand, the value of the improvements might possibly be less than the cost, for it might be in the power of the landlord or the incoming tenant to prove that the work had been injudiciously or expensively done, and that he could do the same thing better at a less cost. He considered therefore that the cost represented the maximum compensation.

A great deal had been said about what he might call the alternative or substitutional clauses, and it had been said that it would be unwise for landlords to make use of them for the purpose of evading the Act; but in point of fact the substitutional clauses were no evasion of the Act, but were an essential part of it.

When he first read the 5th section, he concluded that the Act would not apply to cases in which improvements

were provided for by the custom of the country, by agreement, or by the Agricultural Holdings Act, 1875, but when he turned to Section 61 he found that this was not so. It was clear that the first paragraph of that section applied only to quittings which might take place before the existing contract of tenancy could be determined by notice to quit.

Passing on to the second paragraph of Section 5, as he read it, it amounted to this, that the landlord and tenant might make an agreement providing for compensation under these various heads, but that the operation of that agreement was limited by the words "fair and reasonable compensation." Now, what was the meaning of those words, and what was their operation? When was it to be decided that the agreement was fair and reasonable? It would certainly not be decided on the letting of the farm, because, the parties having entered into an agreement, the question would not arise till the termination of the tenancy, perhaps 5, 7, or 10, or even 20, years afterwards. Suppose at the end of the tenancy the tenant said, "It is true that "I entered into an agreement for certain payment for "these improvements, but it is not a fair and reason- "able agreement; I was pressed to do it, I could not help "myself; I could not have had the farm unless I did so; "pressure was put upon me, and I claim to be compensated "for the value of the improvement under the 1st section." How was the matter to be decided and by whom? Suppose that when the landlord let the farm to the tenant he was advised by his agent, and that the tenant was advised by his valuer, was it to be open to the tenant at the end of his tenancy to say, "It is true I agreed to this, but I agreed "to it because I knew that at the end of the tenancy I "should be entitled to say, 'It is not fair and reasonable,' "thus to set it aside"? Such a construction was absurd:

the fact that the landlord and tenant did enter into such an agreement was *prima facie* the strongest evidence that it was a fair and reasonable agreement, and it would be very difficult to set it aside. Nevertheless, he thought those words would be the cause of much litigation, and it was doubtful whether it was not better for both landlord and tenant to rely on the provisions of the 1st section—the value of the improvement to an incoming tenant,—because, as he had said, he did not see how the compensation could possibly exceed the cost.

Another section he wished to call attention to was the 60th, under which it appeared to him that every quitting that took place in a county in which there was a tenant-right custom, would be subject not only to that tenant-right custom, but to the provisions of the Act, and that every agreement which specified in itself the mode and degree of compensation was also to be taken in connection with the compensation provided under the Act. In other words, the Act did not set aside previous agreements nor previous customs, but would operate in addition to them. He thought it a very important point to remember, that whenever a quitting took place, the agreement, the custom, and the Act of Parliament would all have to be construed, and applied together however conflicting they might be.

The only other point he proposed to refer to was the question of the twelve months' notice to quit under the 33rd section. He believed it had been interpreted to apply to tenancies determinable by common law and by agreement, by six months to quit. Assuming that to be the case, it came to this, that in every agreement a six months' notice was abrogated, and a twelve months' notice substituted, and yet under this Act it was open to landlord and tenant again to agree to a six months' notice. He was an advocate for giving tenants as long a notice as could reasonably be given

them, but he thought that this clause in some cases worked against the tenant. He had a case recently in which he had a tenant (of whom he was extremely doubtful) who wished to know whether it was his intention to give him notice to quit his farm. He (Mr. Sturge) told him that if this Act had not been passed he should not have required to consider the subject for another six months, but that under the Act he was entitled to twelve months' notice, and he (Mr. Sturge) did not feel justified in leaving it in his power to hold his farm for two years certain. He therefore sent him an agreement to sign, that the farm might be held on a half-year's notice, and so got over the difficulty. Landlords, dealing with tenants who were in arrear, would be placed under considerable difficulty, unless they could induce them to agree to a half-year's notice. He did not object to twelve months' in the case of a responsible tenant, but this clause would not work well in the case of weak struggling tenants, whom they were endeavouring to help to the best of their power.

He would conclude by repeating the hope which had been expressed, that all the authority and influence of that important Institution would be exercised in carrying out the Act fairly, fully, and impartially, as between landlord and tenant.

Mr. E. Smyth (Professional Associate) thought it was, perhaps, worth while to name the ratio prescribed in Section 4 between the maximum annual charge payable by the tenant and the outlay made by the landlord when the latter executed the drainage which his tenant decided should be done. It was as 5·7428 is to 100; or, practically, $5\frac{3}{4}$ per cent. This arose upon the usual tabular assumption that the annuity was receivable at the end of each year, the payments being punctually made. This harmonised with

the words of the Act, which were "such annual sum" as would repay the outlay. Moreover, it was in sufficient accordance with the payment of agricultural rent, because the fact of the landlord having the first half of a year's rent about three months before its close only compensated him for being kept out of the second half for three months after the end of the year. He thought, therefore, they had not to consider the value of an annuity when payable half-yearly.

But supposing that point to be settled, they at once met with what appeared to be a discrepancy. In speaking of it as such, he had, indeed, some misgiving, because he did not notice any reference to it in three legal treatises upon the Act. On the other hand, it was too much to hope at once to know each doubt or difficulty of twenty-two lines of parliamentary English which, through the overwhelming exigencies of the close of the Session, came to be wrapped up in a single sentence. The Act said that if the landlord did the drainage he might "charge the tenant with a sum not exceeding five "pounds per centum per annum on the outlay incurred in "executing the improvement, or not exceeding such anuual "sum payable for a period of twenty-five years," as had just been seen to be $5\frac{3}{4}$ per cent. Here were two *maxima*. A tenant might be charged $5\frac{3}{4}$ per cent., and yet he must not be charged more than 5 per cent. In other words, if the landlord was content with 5 per cent., he did not contravene either clause; but he did, it would seem, contravene the first clause the moment he asked to profit by that second clause which was introduced as a concession to him on the modification of his rights.

Mr. A. Vernon (Fellow) said it appeared to be conceded that the time had passed by for criticising the provisions of

this Act, and what remained was to consider its practical application.

Neither landlords nor tenants were very clear as to the probable effect of the Act. This was not to be wondered at seeing the variety of the interpretations put upon it; and after reading the discussion which had taken place in that room, the Members would, he thought, feel guilty of adding somewhat to their embarrassment.

Upon one cardinal point there appeared to be a great variation of opinion. The learned gentleman who opened the debate avowed a most uncomfortable feeling as to the effects of the whole Act, while other speakers seemed to consider it almost incapable of improvement. One speaker (Mr. Clare Sewell Read) declared that it handed everything over to the valuers for settlement. If so, what were the immediate steps which a prudent land-agent should take with a view to the responsibility put upon him, and what were the data upon which he should act? This much seemed clear, that the land-agent's most important duties would arise in connection with the third clause.

There were three several data which ought, he thought, to be ascertained. First, the natural capacity of the soil of each holding, in order to afterwards determine any improved value or increased productive power; next, the rental value on a tenant's entry (which opened up a number of points as to the conditions of the soil, of the seasons, local conveniences, facilities of transit, and, perhaps, local burdens); and, thirdly, the condition of the land when the tenant quitted, minus the inherent capabilities of the soil. Reference had been made by Mr. Tuckett to special protective agreements, but they would not help towards determining the value of improvements. The only protective arrangements which could be made, consistently with the fair carrying out of the spirit of the Act, were, in his opinion, those he had

enumerated, together, whenever possible, with a schedule for fair and reasonable compensation. He considered that, although not provided for in the Act, increased letting value must largely influence valuers indirectly.

Three things appeared to him necessary :—First, to obtain a record of the condition, capability, and rental value of each holding on its reletting. Secondly, to obtain an annual record of artificial manurings and feeding stuffs purchased on each holding. Thirdly, that in each district the local associations of valuers should decide upon the scale of compensation most applicable to their particular district.

He hoped sincerely that the chief outcome of the Act might be to produce increased spirit and enterprise in farming, and that while the resources of the country were augmented, there might also result a higher degree of prosperity amongst tenant-farmers.

Mr. Brook Little (Visitor) thought that Mr. Bund had been very severe in his denunciation of this Act. But he would call attention to the fact that, hitherto, the law in most parts of this country had been that whatever improvements the tenant made upon the land became the property of the landlord, without any compensation to the tenant. The term "confiscation" which had been used was, he thought, rather applicable to the old system than to this Act, which, in nine cases out of ten, left the old law unchanged, and, in the tenth, only gave the tenant compensation when he had actually improved the land and made it more valuable to the landlord.

A question much discussed was, whether it was possible for the landlord to frame an agreement that would deprive the tenant of the benefit of the Act. It had been suggested by Mr. Bund that this might be done by a covenant in the lease that the tenant should not expend more than a certain

amount upon manures. He would submit that such a covenant in a lease would either be void or useless. It would be void if it meant, "I agree not to spend more than, say, £50 on manures, and if I do, I will give up all claim to compensation for the excess," for it would then come directly within the words of the 55th section, as being an agreement by virtue of which the tenant was deprived of his right to compensation. If, however, it only gave the landlord a right to damages in case of breach, it was useless. For if the amount agreed to be expended in manure upon the land was a proper amount, a valuer would not, in any case, give the tenant compensation for the excess, which, being improper, would be of no value to an incoming tenant. And if the amount agreed were insufficient, so that the land would be starved if the tenant did not expend a further amount, the valuer would only deduct from the full compensation for all manures properly used by the tenant the amount which, under the 6th section, would represent the actual damage to the landlord resulting from the breach of covenant, and that, *ex-hypothesi*, would be *nil*; so that in either case the tenant would get his full compensation.

Another kind of covenant had been suggested—that a landlord, on admitting a tenant to his farm, might say, "I will reduce your rent £20, and in consideration of such reduction you shall covenant not to make any claim for compensation when you quit." Now, that would be a covenant which deprived a tenant of his right to "compensation under the Act," because it substituted a reduction of rent for the compensation provided by the Act, and would therefore be void under Section 55, unless it were a "particular" agreement, providing fair and reasonable compensation in accordance with Section 5.

The words "particular agreement" puzzled him. What was a particular agreement, as opposed to any other

agreement? It seemed to him that it might mean an agreement apart from, and not mixed up with, some other agreement, such as the agreement constituting the contract of tenancy. The legislature might have used the words in that sense, in the view that a tenant might be inclined to submit to harder terms before he became a tenant, in order to get his lease, than he would after he had got it, and was more master of the situation, and for that reason have enacted that the agreement regulating the amount of compensation should not be entered into until the landlord and tenant were on somewhat equal terms: or it might mean an agreement which specified the particular things for which compensation was agreed upon, as had been well exemplified by an agreement embodying those Lincolnshire resolutions read by Mr. Martin to the Meeting, which went through the whole system and specified the compensation payable for each particular improvement.

If it had either of these meanings, a covenant in the lease that a reduction of £20 in the rent should be taken, generally, as compensation for all manures put upon the land, and that the tenant should make no further claim, would not be a "particular" agreement, and so, not coming within the exception to the 55th section, would be void.

The suggestion as to the option in the lease for the landlord to inflict a penal rent in the last year of the tenancy, in case of a claim for compensation being made by the tenant, was too patent an infraction of the Act to deserve serious consideration.

He thought valuers had no power to decide what was fair and reasonable compensation. The 8th section only gave the arbitrators power to assess "compensation under the Act." They had no power under that section to assess substitutional compensation. That power was given to them by Section 17, and under that section if the referees

assessed compensation at all, they could only do so consistently with the terms of the agreement.

They had no authority to set the agreement aside; the only means of doing that was by applying to the court, and such an application must be made promptly. It was a doctrine in equity that a man must not sleep over his wrongs. If he thought he had been induced to enter into an unreasonable agreement, he must go at once to the court, and ask to have it cancelled. He thought that, for this reason, they would have very few applications to set aside agreements, and that those would mostly be unsuccessful.

Mr. T. Huskinson (Past-President) said that, in the remarks he purposed to make, he would bear in mind the length of the discussion during the present and former sittings, and the convenience of the gentlemen who would follow him, and be as brief as possible. First he might observe that it would be well to consider what the question of tenant-right was, not only the tenant-right under discussion as affected by this Act (which was only a branch of the question), but tenant-right as a whole, which had to be dealt with on each occasion when a tenant quitted a farm. He could not better illustrate it than by a reference to the neighbourhood in which he lived, where the system of allowances to tenants, in many respects resembled that which prevailed in Lincolnshire, which had been so fully described by Mr. Martin. Now, tenant-right comprised a vast number of matters of great variety and importance, and quite independent of compensation under this Act, and subsisted partly under agreement, and specially also with reference to an inventory taken on the occasion of one man quitting and another entering a farm, and which specified the allowances which had been paid by an incoming and which would be allowed to an outgoing tenant. If there

was no agreement and no inventory, then there was the general custom to fall back upon, and that custom was, in his part of England, sufficiently established to support a claim and enforce it at law.

He need not discuss the first part of Schedule 1, which, dealing as it did with improvements which were all very much of a permanent character, left them, properly, in the hands of the landlord, to be executed by him. That had been the course of proceeding in action, and he thought it was sound, and productive of the best results.

The second part of the Schedule related to drainage, and it appeared that there were three modes by which drainage could be effected. First, by the tenant giving notice to his landlord when the latter might undertake the drainage and charge the tenant 5 per cent. on the outlay, without reference to any limit of time, or it might be done by borrowing the money and charging the tenant a sum which will repay principle and interest at 3 per cent. in a period not exceeding 25 years; or by the tenant himself having power to recover the outlay as an improvement, to be estimated with reference to its value to an incoming tenant. Therefore, this Act was practically confined to the items enumerated in the third part of the Schedule.

With regard to allowances under this Act, there was nothing formidable or unusual about them. They were established in Lincolnshire, Yorkshire, Nottinghamshire, and other places, and, therefore, they came to them tested by long and wide experience and had been productive of perfect satisfaction to both landlord and tenant; for the tenant-farmers of Lincolnshire and of his own county were agreed that they were liberal and fair in respect of the matters to which they related. Therefore, it seemed to him the great advantage of the Act was that, first of all, it

confirmed the customs which had been established in those districts; and secondly, that it extended them to all places which at present had no advantages of the kind.

He would deal with the mode in which compensation was to be estimated in two ways. First, compensation was to be paid for improvements referred to in the third part of Schedule I., with reference to their value to an incoming tenant. He (Mr. Huskinson) thought this a wise provision, because, in the first place, it secured to the tenant that if the work was pressing, and should be done judiciously, he should be paid for the improvements he made; and, in the second place, it acted as a check upon persons disposed to make unnecessary improvements, or to make them imperfectly or injudiciously. They might make them at their own cost, but they would not be in a position to do things that were improper or unnecessary and afterwards call upon the landlord or incoming tenant to pay for them. This was, he considered, a sound principle.

"Value to an incoming tenant" was a vague expression, and there were only two modes by which such value could be estimated—either with reference to the cost of the operation and its duration, or with reference to the increased annual value of the holding. Now, there was not a word in the Act about annual value or improved rental, and there were obvious reasons why it was impossible to adopt such a measure of value. There were a large number of causes which affected the value of the holding, perfectly independent of any improvement the tenant may have made, such as local circumstances, the price of produce and of labour, and the facility of communication, and, what was of great importance, the fact that the rent of a farm, as has been seen, might be fearfully influenced by a cycle of wet seasons. Therefore, this measure of value could not be accurately applied. Then there was the measure afforded by the system

which, as had been shown, had worked satisfactorily in Lincolnshire and other counties. Under this system what was taken into account was the cost, the length of time the tenant had the benefit of the improvement, and what balance of result might remain to which he was entitled.

In this system they had a measure which he held to be most equitable in itself, and the success of which was proved by long and varied experience. With Mr. Sturge, he could not conceive a case in which a tenant would obtain more for improvements of that character than they originally cost him; to be discounted by the profit he had derived from them, and possibly by further deduction if the outlay was made in an injudicious and improper manner. The advantage of the Act came to this, that those customs which, as he had said, existed and operated in several counties with the force of law were recognised, and made more definite (some of the vagueness and variations occasionally introduced by valuers being got rid of), so that the outgoing tenant would have the advantage of knowing with tolerable certainty what he had to receive, and the incoming tenant what he had to pay. But a still greater advantage of the Act was that it extended customs which were now only partial to the whole county, and, without deciding the amount of compensation, specified the article for which compensation should be awarded. The Act still leaves much to mutual agreements, and he could not imagine any prudent owner or any intelligent land-agent dealing with property without at once introducing, where they were wanting, agreements specifying what allowances should be made upon the particular holding to which they related.

Tenant-right, as dealt with by the Act, was only the fringe of the whole question; and in practice it was very important to combine all tenants' claims in the compensation

to be estimated; otherwise the result would be that, for a great number of items which went to make up tenant-right, and of which this Act did not take any cognisance, there would be a process of valuation going on independently of this Act, and another going on in respect of improvements in Part III. of the Act. What ought to be and must be done was to include in one valuation all the allowances which a tenant could claim, whether existing by agreement, by the custom of the country, or by virtue of this Act.

The words "fair and reasonable" were another elastic phrase in the Act, and called for some consideration. It would appear, *prima facie*, that there could be no better measure of what was fair and reasonable than the arrangement which the parties themselves entered into, and he could not imagine that an agreement specifying all allowances to be made, would be set aside on the ground that its terms were otherwise than fair and reasonable. But supposing the question to be raised, notwithstanding this *prima facie* evidence by agreement, of fairness and reasonableness. The next best measure would be a reference to the custom and practice which had been acted upon in Lincolnshire and other counties, and which had been productive of the highest state of agriculture in England.

With regard to estimating the allowances, he was glad to observe, and entirely agreed with, what Mr. Clare Sewell Read had said, that it was not desirable to enter into them with too much minuteness, or to strive after unattainable exactness. The precise value of cake or other food consumed depended, no doubt, upon whether it was consumed in summer, or in winter, or in a wet or a dry season, or whether the cake was consumed in fields, or in yards, or in open yards, or covered yards. Those were questions, however, too minute and subtle to apply with fairness in cases of this kind. What was wanted was a broad, fair

rule, capable of general application, because, when the time came for estimating the compensation, it would be impossible to ascertain the precise conditions which prevailed when these things were used and applied to the land. He thought it most important, therefore, to have a definite agreement for specific allowances, to be paid and received as the case may be.

With regard to the difficulty of estimating these allowances to a tenant, no doubt, in the abstract, they might seem very considerable when dealing, say, with allowances for cake or manures used two years previously; but the difficulty was theoretical rather than practical. There were opportunities, as there always had been and would be, for fraudulent persons to take an unfair advantage, because it was impossible to test accurately all the claims that might be made; but, as a practical matter, there were general data for arriving at a fairly satisfactory estimate.

He would not trouble the Meeting further except to express his satisfaction that the Act had been passed, and that it had passed in its present form. It was, he thought, an earnest, honest attempt to settle difficult questions on principles of justice between landlord and tenant, without political bias and without any undue leaning to class interests. In practice it would be found, he believed, to be intelligible, if read with a mind willing and desirous to understand it and to honestly apply its provisions; and he hoped this would be the mind in which the subject would be approached by every person who was called upon to apply its provisions. He was convinced that there was nothing more distant from the minds of the mass of landlords than to take undue advantage, or in any way to contract themselves out of the liabilities the Act imposed.

Mr. J. W. Willis Bund said, in reply to the discussion,

that he must repeat, notwithstanding what had fallen from the last speaker, and from those who had preceded him, that he had honestly endeavoured to understand the Act, but had wholly failed to do so. He agreed, however, that, as the Act had become law, it was the bounden duty of every one to carry it out honestly and fairly.

The discussion went to show that it was the duty of landlords and of tenants, in both their interests (and not one more than the other) to have their respective rights defined in their agreements. What should be the contents of these agreements was a subject too wide for present discussion. Only the other day an eminent personage had declared that an agreement which said that a tenant should make no improvements would be altogether void. He had the greatest respect for the opinion of the person referred to, but as a lawyer he must venture to dissent from him on this point, unless, indeed, the Act was to be taken, as he hoped was not the case, as altogether doing away with freedom of contract between landlord and tenant.

He had listened to what had been said in that room, both on that and on former occasions, but he still maintained the opinion that the valuers, and the valuers only, were the persons who were to say what was "fair and reasonable compensation." If the 5th section had stood alone, there would have been considerable doubt on the point, but, taking the 5th and 17th sections together, he thought it was clear that it was the valuers that were to say what was fair and reasonable. He would call attention to the words of the sections. The 5th section enacted that the tenant should receive for any improvement fair and reasonable compensation, having regard to the circumstances existing at the time of making the agreement. Then came the 17th section :—"In any case provided for by sections three, four, "or five, if compensation is claimed under this Act, such

"compensation, as under any of these sections, is to be "deemed to be substituted for compensation under this Act, "if and so far as the same can, consistently with the terms "of the agreement, if any, (1) be ascertained by the referees "or the umpire, shall be awarded in respect of any "improvements," &c., &c.

Taking the two sections together, it was clearly for the referees and umpire to say whether it was fair and reasonable, or otherwise; and, going back to the 5th section, they were to decide with reference to all the circumstances existing at the time the agreement was executed. If the point required the interpretation of the courts of law, the judges, who were paid to interpret Acts of Parliament, would no doubt do so fully, but until they did, he maintained his opinion that it was for the valuer to say what compensation was fair and reasonable.

That brought him to a question upon which he wished to say one word, namely, the scale of allowances fixed in Lincolnshire and other counties. It was an admirable scale, but was it altogether legal? He admitted that, if a landlord and tenant could be got to incorporate it in an agreement, they were bound by it, assuming that the valuers were to say it was fair and reasonable; but assuming the valuer applied that scale to cases of tenancy where there was no agreement, instead of valuing the improvement, when he came to be cross-examined in a county court, and was asked—"Did you value each separate improvement? No. What did you do? Took the Lincolnshire value. Is not the Lincolnshire value of an improvement for the incoming tenant one based on outlay? Yes."—it would be clearly ruled that he had contravened the Act. What should be fully considered was, whether this much-vaunted scale of allowance, which was binding upon persons consenting to it, might not turn out a broken reed in

the hands of those who trusted to it under other circumstances.

The Act of 1875 was not so far wrong, after all, as regarded the true basis of compensation. Mr. STURGE had said that he could not imagine cases where the compensation would exceed the cost. What was that but the principle of outlay? All the speakers were harking back to that principle, and seemed to agree that this new principle introduced into the 1st section of the Act of 1883 was not so good as the old one, and not so reliable.

Another point worthy of great consideration, particularly at the present time, was in regard to cases where the landlord had made an allowance from the rent—as Mr. WATNEY put it, allowed £20 a year for tenant's improvements—while the tenant took the reduction and claimed compensation as well. That was a question for the valuer, for it would be seen that the 6th section did not say if an agreement is made that agreement is to be binding, but if any benefit is allowed by the landlord the tenant is to be credited for it. If the landlord knocked off £50 or £60, the tenant, notwithstanding the agreement, could still say, "I will have it in rent as well as in improvements." That one could not eat one's cake and have it was evidently no longer law in this country.

An important point to be decided was the question of drainage. Did the Act mean tile drainage, or, as had been asked, bush drainage as well? That would have to be considered by the court, and a decision obtained upon it. It was urged that the landlord could secure himself by agreement; but suppose he had a tenant for a shorter time than that in which the charge for drainage and the interest expired, who gave him notice after spending his money: he might get his 5 per cent. for one year only, and be left with the improvement on his hands. Landlords

were often placed in that position. If the tenancy were from year to year, the landlord could not safely execute drainage works, as the tenants could give notice, saying they have had enough of it, and go. It would be dangerous for any landlord, unless the tenant had a lease, or unless he was certain the tenant was going to stay, to put his hand into his pocket and spend a large sum on drainage.

Another important point was with regard to fraudulent claims. He did not put it that the tenant only made fraudulent claims. The landlord also might, possibly, make them. He, however, dissented from Mr. DRUCE's point about buildings. An incoming tenant might say, "I do not want to carry on the same system of agriculture as my predecessor"; and could it be said, under such circumstances, that the buildings were of the same value to the incoming as they were to the outgoing tenant? This was an important point; and if the landlord were fraudulently inclined, he could take advantage of it and defraud his tenant. He had had two cases of fraudulent claims by the tenant under his notice lately. The first was the case of a quitting tenant, who had a miller living near him to whom all the corn had gone, and from whom he bought his meal. He also enormously increased the quantity of pigs on his holding, and he (Mr. BUND) was asked whether it was possible to get an injunction to restrain the man from keeping so many pigs.

The other case was nearer London, and had been alluded to by one of the speakers. A gentleman purchased some land of a quantity that would not have come under the Act of 1875. The tenants were going out at Lady-day. One of them had a number of horses, and when they had nothing else to do he employed them in hauling manure on to the land until it was feared he would make the place one vast manure-heap, for which he would try to get compensation

from the unfortunate builder, who would have to clear it off before he could use the land for building purposes.

He had only to deal with two other points, both of which were mentioned by Mr. TUCKETT, and would say a word or two upon each of them. Notwithstanding what fell from Mr. DALE, he maintained his opinion with regard to the valuer. Mr. READ had said he did not mind the question of fair compensation being left to a valuer. Although he (Mr. BUND) was a lawyer, he objected, with Mr. READ, to its being left to a lawyer. The county court was not, he thought, a proper tribunal to try questions of the kind. It was said that a judge's power would be confined to the words of the section. He did not wish to say anything invidious, but county court judges would be very loath to exercise their discretion of remitting cases to be reheard, and very apt to take an obstinate line and decide to determine it themselves. Section 23 said that the parties could only appeal on certain specified grounds, but when the case got before the county court judge, he could upset the award on any point he pleased, wholly irrespective of any grounds at all. He could say, "This award is bad, and I decline to confirm it," and his decision could only be upset on questions of law, very few of which might arise.

There were two valuations: valuation in respect of tenant-right and valuation under the Act. In the case of a valuation in respect of tenant-right, if over £50, either party could go to a Divisional Court, the Court of Appeal, and to the House of Lords, and have the highest judicial talent employed upon the matter; while in the case of, it may be, thousands of pounds under the Agricultural Holdings Act, they were absolutely bound by the decision of a county court judge, and could go no further. He quite concurred with Mr. HUSKINSON that there ought not to be two valuations. There ought to be but one valuation, once and

for all. The mischief of two appeals was that part of the case might go one way and part the other. This was most destructive to the interests of both parties; and if any attempt were made to amend the Act, he hoped that one valuation would be made to include all claims, whether put forward in respect of quitting the farm, or made in respect of custom, agreement, or otherwise.

In conclusion, he repeated that he objected strongly to the Act, which, he held, interfered between man and man in the matter of contract. Put any restrictions upon contracts before they are entered into, but when once entered into, they should be binding. He did not complain so much of any preliminary interferences, but when once the contract was signed, the parties should not be allowed to depart from it. To permit them to do so was to sanction a course of proceeding most injurious to the public interest, and at once immoral and unjust.

The President was unfeignedly glad to be relieved by the lateness of the hour from going through the form of analysing and weighing the various matters which had been dealt with by the several speakers, because such a process necessitated a trained intellectual power which was wholly wanting on his part. He must, nevertheless, congratulate the Members on the exhaustive and practical discussion which they had heard, as well as on the fair and reasonable tone which had characterised it. He could not help thinking, indeed, that if Mr. Willis Bund had received an actual retainer as "Advocatus Diaboli" in respect of the Act, he could not have fulfilled his functions with greater energy or skill. He (The President) must confess that the Paper caused him an exceedingly bad quarter of an hour, notwithstanding the somewhat reassuring quotation from a well-known amatory poet with which it concluded. He had listened

with the greatest interest to Mr. Bund's able reply that evening—especially to his eloquent plea for the inviolability of agreement,—and could not but lament his announcement that he was of the "same opinion still," which was, however, consistent with the possibility that he had become "convinced against his will."

Several points had occurred to him (The President), with which he should have attempted to deal, had time permitted, amongst others the adaptation of the "Lincolnshire Tenant-right" to districts in which wholly different conditions prevailed with respect to dates of entry and otherwise. Although the principle was perfectly fair and reasonable everywhere, great caution was requisite in so applying it in particular cases as to avoid injustice either to the outgoing tenant or the incomer. As matters stood, however, he should confine himself to summing up in a few sentences his own impression of the Act. Assuming absolute good faith on the part of landowners and tenants, as well as competent professional skill and perfect fairness on the part of all referees, agents, and valuers, it would leave little to be wished for. But these were each and all impossible assumptions, and it was to be feared that the sharp practice which is occasionally too successful under the existing system of tenant-right would be even more difficult to guard against in the future. He was fully of opinion, nevertheless, that, after a year or two of greater or less friction and perplexity, the measure would prove to be in fact, as it was in intention, a fairly satisfactory settlement of most of the questions with which it deals.

Paper 118
No. 204

BUILDING RISKS AND THEIR INCIDENCE.

By T. M. RICKMAN, Fellow.

Read at the Ordinary General Meeting of The Surveyors' Institution, *January 28th*, 1884.

THE PRESIDENT (MR. T. SMITH WOOLLEY) IN THE CHAIR.

All building works involve risks:—

Risks to builders;

Risks to employers.

The risks usually considered to attach to builders are:—

Changes in price of labour, enforced at times by strikes;

Alteration in the efficiency of labour;

Changes in price of materials;

The difficulties arising from having to obtain special materials in place of those usually procurable;

The state of the bottom obtainable for building, and the consequent extent of the foundations of the proposed structure;

The use of materials from the estate, such as bricks, stone, timber, and the value of them for the purpose of the erection;

The state of the adjoining premises as affected by the proposed works, and the condition and value of the old materials which may have to be reused;

Risk of irregularity of payments, and the failure of the employer;

Penalty as to time of completion;

Risk of accident to the public and to workmen employed;

The idiosyncrasies of architects, as shown in their explanations of their own terms;

The unexpected views of the intentions of the legislature by the administrators of Acts of Parliament;

The whims of clerks of works;

The danger of inaccuracies in the estimates.

The risks usually considered to attach to employers are:—

Excess in cost over the contemplated expenditure;

Delay in completion beyond the anticipated period, occasioned by strikes, tempest, frost, or other inclement weather, and other causes, and the possible want of occupation for the building in consequence of such delay, involving sometimes the loss of anticipated business;

Delays and difficulties from the failure of the builder;

Defects in workmanship and material, after all precautions taken;

In case of the employment of an architect strange to the locality, his non-acquaintance with local customs and materials.

Though these several risks may be divided into two classes, they are originally all those of the employer; he engages an architect to minimise them for him. Some of them he can get rid of, others remain. If he throws on the builder unreasonable risks (*sporting* items in the bill of quantities), he must pay heavily for getting rid of them.

There are cases in which risks can be transmitted, and others where they must be retained. Whoever draws up a reasonable contract will not endeavour to throw unreasonable risks on to the builder. The experience of builders varies as to what they will undertake as risks, and difficulties are sure to ensue if builders undertake risks with the bearing of which they are unacquainted.

Before considering the relative advantages of different modes of contracting, some observations are here offered on the mode of dealing with the several risks above mentioned.

The risks as to variations in prices and efficiency of ordinary labour and materials should lie with the builder.

The employment of "other tradesmen," specially named by the employer or architect, for portions of the work, introduces fresh difficulties for builders, and makes it almost impossible to carry out the works by the intended date of completion, as such tradesmen are not usually bound to time in the same manner as the general contractor, and the latter has not usually the power of making a free contract with them.

The extent of foundation required is usually a risk retained by the employer. It is often possible to obtain extra accommodation from additional foundations, which is to the employer's advantage. It is sometimes almost impossible to execute works in foundations which, in the first instance, it seemed reasonable to propose.

The works to adjoining premises, including party-walls, are invariably attended with risks which generally should be retained, but must sometimes be transferred. The liability occasionally arising to rebuild, instead of repairing, a party-wall, and the expenses in consequence, including that of removal, to the adjoining owners, may be so greatly varied in execution, that the possibility of transferring the risk to the builder by any usual clause is more than doubtful.

The amount of the penalty inserted in a contract for delay in the completion of the works should be based on some equitable principle, and should be commensurate with the loss from non-occupation. This may be calculated, as interest on money expended, in some cases on buildings only, in others on buildings and site, and there are cases where the value of expected trade may be introduced, but, in the latter case, it would seem reasonable that it be mentioned in the contract.

The time allowed for additional works should be allowed in case of variations, on the whole amount altered or reconsidered, and cannot practically be calculated on the value of net extra cost alone.

The present increased actual value of land, and the increased proportion which the value of the site now bears to the total cost of town buildings of which it forms a part (and which value has to be considered in many instances in calculating the amount of penalty), has led to haste in the conduct of the work, to throwing points of detail over until the time comes for their execution, and to the drawings and specification being incomplete and really insufficient either for estimating or for carrying out the works.

Such being risks attendant on the erection of most buildings, there are cases in which employers increase their risks by the course of their proceedings. A public body erecting a building of a new sort increases the risks by introducing the element of an architectural competition for the design, and by stating a fixed sum, as the principal guiding element, in the conduct of the works.

Another case is that where there is a contract for an entire work, with the rates applicable by special clauses to future variations, and where risk of complication is introduced by every separate private bargain made in the course

of the works either by the architect or by the employer with the builder.

Such agreements are most difficult to interpret, and, even if clearly defined, introduce two separate systems of settling a value for the same work.

Another element of risk is introduced by changes in the plan or in the class of work to be used, made after the receipt of the tenders and before the contract is signed; such changes, if considerable, complicate the accounts and are most difficult of statement in revising the drawings and specification.

Reasonable care may make quantities and specification hang together if written continuously, but it is to be doubted if it is possible so to alter a specification for a large and complicated building, which has been accurate at first, as that it shall be correct after considerable variations have been introduced.

And here may be considered that element of professional responsibility which is so generally introduced in the conduct of works, and which should result in the proper distribution of risks between the employer, the architect, the surveyor, and the builder.

An employer building on his own estate employs his own men and materials. If erecting a new building, he takes all risks himself, and those risks are the least possible in quantity. If altering an old building, the risks are greater, the uncertainty as to time to be occupied by the works is increased, the cost of the works is greater, and the difficulty of subletting portions or trades, if the proprietor is disposed to do so, is increased.

If a building is erected in a town, there are the further risks of dealing with adjoining properties and with public authorities. These require special knowledge, and builders

are to be found who will take these risks as an ordinary business, and also the responsibility of the working up the whole into a complete house or building, such responsibility being expressed by the laws relating to contract for the production of a complete chattel.

If the employer requires special architectural design, an architect is employed, who is the agent of the employer, and is responsible to bring larger knowledge of dealing with risks to bear on each subject than either the employer or the builder may possess. In arranging a contract under such circumstances, the cost of materials and labour is to be supposed to some extent to be known by all parties, and a profit is added to cover the risks which cannot be particularised, and for the reward of the builder.

Employers, and with reason, generally doubt the expediency of placing a contract in the hands of a builder without competition, hence the system of tendering; and, were the specification always clear, and no sporting risks introduced, each builder tendering would prepare his own estimate; but the multiplication of these more difficult risks, and the want of exactness in defining them, are some of the reasons for the introduction of an intermediate person who himself takes the risk of the quantities, and furnishes them, as far as they can be accurately measured, and whose business it is to point out the nature of all sporting risks which may be contingent on the contract.

It is very difficult to define some of these risks, as it is difficult to define the modes of construction intended to be adopted, and when severe competition is introduced it becomes at some time a question what is to be considered the contract with reference to such matters. What the architect intended to express may not be the fair meaning of the words he used, and so his intention may not be the explanation of the contract.

Upon the fair rendering in the quantities of the terms stated by the architect depends, most likely, whether or no the builders tendering take sufficient pains to ascertain beforehand what these risks are.

If all of the risks are not stated in the specification, except under general headings, if all of them are not ascertained by the measuring-surveyor in preparing the quantities, it would seem questionable whether the builder who contracts for the work is responsible for such risks so omitted, and, if not, it would seem that they are still on the shoulders of the building-owner.

Reviewing the history of the course of business, we find—

First. The architect employed by the building-owner, employing workmen; all risks being at the cost of employer.

Second. The architect and builder combined, with or without contract, the employer, by selection of an architect, devolving on him, as he might think, all risks, but in that probably mistaken.

Third. The employment of an architect, and under him of contractors for separate trades or of a builder for all trades. Both parties recognised by the employer, with larger chance that all the risks should be transferred from the employer, but with a probability that some of them may reach him after all.

Fourth. The introduction of a quantity-taker—

Either unrecognised by the architect or employer;

or recognised by the architect, not by the employer;

or recognised by the employer;

or appointed by the employer:

with a further complication in the three last cases, not unfrequently introduced, by the fact of the architect being the quantity-taker.

In each of the above-mentioned cases, more or less of the

risks are become the responsibilities of the several parties engaged by the building-owner, but if any one of them, architect, quantity-taker, or builder, have not done their duty in preparing the contract and the estimate therefrom, and, as is also possible, if the employer has not assisted as he ought, such neglected work may make a sore place in settling up the accounts, and the employer may find himself still involved in risks which he thought to have transferred.

A knowledge of the relative positions occupied by these several parties is gradually reaching the class of persons who are likely to build; there are many among them who are desirous of shirking their true position, but those who have had experience (or who have still more fortunately obtained their experience from others) are becoming aware that the nominal shifting of all responsibility from off the shoulders of the employer on the subject of open questions or undefinable risks, is not a course which will secure for him the execution of the work for a fixed sum, without chance of excess or further trouble; nor does it secure the entire avoidance of questions which may have to be referred.

We are now more in a position to consider the relative advantages of different modes of contracting and the employment therein of the various professional persons usually engaged, with the extent of devolution of risks accompanying each. Those to which attention is here called are as follows:—

(A) Day-work prices for labour and materials.

(B) A fixed sum for the whole, obtained from the builder, without the intervention of a Surveyor.

(C) A fixed sum for the whole, obtained by quantities furnished, priced or unpriced, by a Surveyor.

(D) Measure and value on a schedule.

The schedule priced by builder on tender.

The schedule priced by Surveyor and tendered at a percentage on or off.

(E) An agreed percentage on prime cost.

The principal point to which attention is called is the question as to which of the above courses distributes the risks before mentioned most equitably.

(A) *The employment of a contractor who charges by day-work for labour and materials at agreed prices or at current rates.*

The risks of alteration in price of labour, and, to some extent, in the efficiency of labour, and the risk of alteration in the price of materials, are in this case on the builder, and, if payments are regular, all other risks remain on the employer. There are many cases in which the changes possible in cost of labour and materials are the most important risks, and the only ones which can be taken off the employer's hands. Many large accounts for repairs must be thus treated, and the accounts for works are so treated at times when the employer and builder are equally acquainted with construction, and when the employer is his own clerk of works.

(B) *A fixed sum for the whole, obtained direct from the builder.*

All the risks which I have given as the builder's are supposed to be transferred to him under this arrangement, but the extent of the employer's risks will depend upon the carefulness with which the specification has been drawn, which means a sufficient examination into the various questions by the employer or his architect beforehand. In default of this sufficient examination, the following risks will practically remain on the employer:—

Foundations: Adjoining premises: Some public require-

ments, and the difficulty of obtaining special materials: Besides others which if not fully considered may become the subject of a reference.

The employer's risks which this course is intended to pass on to the builder are—excess in cost, delay in completion, and class of workmanship. The extent to which this is really effected depends again on the specification and sufficient preliminary inquiries; in fact, on the reasonableness of the specification.

Special attention has been called to the necessity of preliminary investigation, because on it depends practically the extent of contingencies which have to be provided for. A builder may insert a sum for all such things as he has not taken the trouble to measure or inquire into, but that is not business, and it is a course which a measuring-surveyor cannot adopt. The object of competition is to avoid the existence of such an item, and to obtain, at lowest market price, a specified combination of recognised marketable materials. Engineers and architects preparing their own quantities may insert a provisional item of 10 per cent. to cover their carelessness, but the result of such an item must be, if disputed, to throw the whole contract open to a careful remeasurement.

(c) *A fixed sum for the whole, obtained from quantities furnished by a measuring-surveyor.*

It is not intended here to discuss the various positions occasionally taken by the measuring-surveyor, and the variations in extent of the authority which consequently attaches to his quantities. Whether he is a builder's clerk, a builder who has relinquished his original business, an architect's clerk, an architect who has relinquished, or is prepared to relinquish, his original business, or a trained assistant to an expert; any of these may be his origin.

His appointment may come from some only of the builders, from all the builders, with or without touting, from the architect, from the client. There are risks that he may do injustice to the builder, to the architect, to the client. His fees may be allowed fairly, including or not including responsibility for errors, they may be inserted at a very high rate, and the architect may mulct him in various ways; or the client may cut down his charges till they are insufficient for producing effective quantities. He may prepare them on speculation or with a limited guarantee. In many of the above cases there arises a special risk that his work be not well and fairly done. The conclusion to be drawn is that upon the position in which the measuring-surveyor is placed and the independence of his examination of all risks, intended to be devolved from the employer to the builder, depends the effect of the contract as regards the transfer of those risks.

When the quantities furnished from the information at the disposal of the builder are prepared with sufficient care, such a contract as is now under consideration gives the builder the following risks:—

Alteration in price and efficiency of labour;

Responsibility to complete by a fixed time under a penalty.

The risks connected with adjoining buildings, old materials, use of estate materials, and of special tradesmen's work are reduced to a minimum, but still probably remain on the employer.

The risks as to regularity of payments, as to the idiosyncrasies of the architect and of the clerk of works, are taken by the builder, and the accuracy of the quantities is either taken by the measuring-surveyor or not, according as it has been arranged that he should be paid.

Of those risks which I have termed employer's risks,

means are herein taken to reduce those of excess of cost and of delay in completion. The quality of the work depends on the builder selected.

One important element in the effectual transfer of many of the risks enumerated, is careful settlement beforehand of what is intended to be done. In some cases this is possible, and for this purpose the adoption of the system of a contract with the assistance of quantities is the proper course.

If it be objected that the careful consideration here pointed out is no business of the Surveyor, but is altogether that of the architect, the natural reply is, that in the proper view of the case, this careful consideration, this endeavour to eliminate questionable risks, and to clear up questions which might lead to misunderstanding in the course of the work, and consequent contention, is one of the *raisons d'être* of the Surveyor's position ; that if he maintains this he will maintain the standing of the measuring-surveyor, as a professional man, and if he lets go of this position, and allows, knowingly or carelessly, any question to remain not cleared up which a little care or careful interrogation on his part at the right moment might clear up, then he becomes part of a class whose one-sided and close-sailing evidence has brought much obloquy on the profession.

A class of cases has now to be considered where it is not possible to fix beforehand the extent or nature of the buildings which it is intended to erect.

(D) *Measure and value on a schedule.*

In such cases the ordinary course is to arrange that the work executed shall be measured and valued at an agreed schedule. The changes in the incidence of building risks in this case from the last-mentioned are as follows :—

It is very difficult to fix a time for the completion of the

work. The questions of adjoining buildings, old materials, use of estate materials, remain with the employer almost entirely, and, in fact, the risks are much the same as in the case of the employment of a contractor at day-work prices, except that the efficiency of labour rests more completely on the builder.

The first point which requires attention in the working of a schedule, as contrasted with that of a tender on quantities, is this :—

In a tender on quantities a contractor can arrange beforehand for his materials in the cheapest market and at the proper time for the conduct of the building, whereas in the case of a schedule he cannot make this calculation; his tender on a schedule is therefore likely to be higher than on quantities for the same work. There are, however, two ways by which this difference between the systems is occasionally reduced in execution. In the case of a contract it sometimes happens that an architect exercises the power of changing materials in the course of construction, and keeping parts of the building in abeyance to such an extent that a builder cannot take any advantage of the condition of the markets—a point which is against the builder under a contract; and in some cases, where works are executed at a schedule, a fair idea may be obtained at first as to the extent and nature of materials required—a point which is in favour of a builder under a schedule.

The next point of difference to be noticed is that of comparative closeness of measurement.

The accuracy of quantities depends on the time allowed for their preparation, and on the care exhibited in the drawings furnished. The custom of furnishing such details as may be relied upon by the Surveyor for preparing really accurate quantities, and by the builder for the execution of

the work, only survives in cases so few and exceptional that it may almost be left out of consideration. It is an article of faith that such a custom once existed.

Probably it will be near the mark to state that in very careful quantities, taken from general drawings only, there is an excess of ½ to 1 per cent. (and there ought not to be more), and that there are various labours taken which a builder tendering will consider either not imperative or included in the general description of the work, to the extent of possibly 1 per cent., but not exceeding that on the whole value of the work. These points are commonly discounted by the successful tenderer. In the case of measurement the excess may be considered as occurring to about the same extent, though it is likely to occur in different items from those which are likely to show excess in quantities: moreover, all labours and only those which are executed are paid for. These points are also discounted in the case of tenders on a schedule. The cost of measurement may be taken as 1 per cent. more than the cost of quantities, but the cost of measurement of variations is saved, so there is very little actual difference in this respect to the employer.

There are two modes of pricing a schedule in use—

First. The presentation to the builders tendering of a blank schedule, comprising the principal items likely to be required, and the delivery by each of a priced copy, such competitive schedules requiring very careful comparison by means of a supposititious bill of quantities.

Second. The presentation to the builders tendering of a schedule already priced out by a Surveyor, and the delivery by each of a tender, at so much per cent. above or below the Surveyor's prices, and, as variations of this arrangement, may be added, the use of a published official or trade price-book.

The objection to the first is, that a large amount of

special trouble is thrown on the builders tendering, who, to some extent, work in the dark, and the prices sent in are likely to vary very much in rate of profit in the several trades, and an endeavour is fostered on the part of the builder or employer to manipulate the work so as for one of them to gain an advantage over the other.

The production of an original suitable schedule, carefully priced out according to the exigencies of any special case by a Surveyor, is a very difficult affair, and one seldom carried out. The second case commonly degenerates into the use of a recognised price-book or public schedule, to which objection may generally be taken, that the public schedule is inapplicable to the special circumstances, and is commonly of old date, and that the price-book is based on assumed prime costs, and its application implies a re-examination of all prime costs. In fact, there will generally be much guess-work, and therein an additional cost to those concerned, which, in a cutting business (such as building), will needs end in the employer suffering in some way.

Another point to be considered is that in building works, both contract and schedule, the circumstances of the case often vary so much from those contemplated by both parties at the commencement, that in fairness, for more or less of the work executed, the builder is entitled to be paid at different rates from those first contemplated; and these changes involve so much consideration that, on a reference, and occasionally as a mode of avoiding litigation, the actual prime cost to the builder has to be ascertained as a basis for the fair payment for the work.

This brings us to

(E) *An agreement to allow the builder a fixed percentage on his prime cost.*

In this case it is recognised that the various risks are on

the shoulders of the employer, but, instead of endeavouring to pass off many risks which he cannot control, and making his interest antagonistic to that of the builder, thus adding another to those he may have to fight in the course of his building operations, the employer faces the risk of an account prepared by the builder, with or without supervision, and trusts to obtaining in exchange the best efforts of the builder in economising time, in which the builder is especially interested, as well as in the economical use of materials and labour.

Such an agreement implies that the employer is one who erects buildings as a business, and that the builder is one who carries out buildings in a known and efficient manner. It implies that there is no intention on either side to *best* one another. It is therefore usually accompanied by mutual knowledge of the two parties.

In such cases the preliminary questions which always require special consideration and settlement beforehand include superintendence, and the use of plant and establishment charges. The terms of agreement usually involve the charging of certain items specifically, and the charge of a percentage made up of two items—one for establishment charges, and one for profit.

It need hardly be said that these percentages must vary very much with the class of work required and with the position and extent of work intended, and also with the position which the builder may hold in the class of tradesmen.

In the above notes it has been endeavoured to treat the subject from a Surveyor's point of view. Let it not be supposed that it is wished to underrate the necessity for an architect. The business of the measuring-surveyor is a branch of architecture, not conveniently carried on by the same person who is engaged in designing, and the opinion should

be emphasised that one of the greatest risks which an employer ever runs, and one which, if he does run, he may thank himself for, is that of endeavouring to carry out building operations without the assistance of an architect. One principal purpose of the employment of an architect is to see that a result is obtained commensurate with the means employed, but this result is not measured by cubic contents of building alone, but by convenience, suitability, and representative character, all of them other words for true economy. Under general circumstances, these requirements can only be obtained by the employment of an architect, who is responsible professionally for the result. He must be treated as an adviser and confidant, not as a servant or contractor.

Some of the difficulties have been mentioned which may be placed in the way of a contractor or of an employer from having an architect of insufficient experience, or of unwillingness to learn, but such faults are to be found both in builders and employers, and dealing with human nature involves risks overcome only by experience and by the habit of acquiring information.

The subject of the selection of an architect, and the position which the Surveyor should take, if he be employed (and who so fit?) to assist in such selection, is one which, as Sir Walter Scott says in the second chapter of "The Pirate," ought not to be discussed at the conclusion of a chapter.

Mr. Chas. J. Shoppee (Fellow) considered that the Paper was of a kind to redound to the credit of the "Transactions," and it could not fail to be useful. There were one or two points in it open to discussion. These points would, no doubt, receive adequate treatment at the hands of

the Members; he would therefore confine himself to moving a vote of thanks to Mr. Rickman for the service he had done the Institution by preparing his able Paper.

Mr. T. Chatfeild Clarke (Fellow) begged to second the vote of thanks to Mr. Rickman for his excellent Paper. He could not help feeling that it was rather magnanimous on his part to do so, considering the somewhat severe handling which the architects had received at the hands of the author, who spared neither their ignorance, their weaknesses, nor their idiosyncrasies in his Paper. The last clause, especially, had somewhat startled him, for, unless he misread its meaning, it implied that the quantity-surveyor should have a hand in selecting the architect, which struck him as a rather novel doctrine, and one quite at variance with his experience and with what he had imagined was the established usage. It was a capital lesson in humility which architects would, he hoped, take properly to heart. But, to be quite serious, he did not remember to have anywhere read a passage more excellently defining the true position and functions of the quantity-surveyors than a paragraph on page 128, and he did not believe it was possible to define their position and functions in fewer or better-chosen words, or to hold up the ideal better of an honourable branch of the profession of Surveyor.

He considered the Paper, as a whole, extremely good, and abounding in useful suggestions; but he was not sure he quite agreed with the scope of some few passages relating to the distribution of risks, believing, as he did, that it was the duty of the quantity-surveyor and the architect to eliminate rather than to recognise and apportion these risks—to see, in fact, that the builder was honourably and properly paid for taking all such risks as could be fairly calculated, leaving the employer as free from liability and the chances

of litigation as possible, and that by such means building was promoted.

Mr. Arthur Cates (Fellow) cordially concurred in Mr. Chatfeild Clarke's commendations of the admirable manner in which Mr. Rickman had set forth the responsibilities and duties connected with the honourable profession of the measuring-surveyor. The Paper, however, did not readily afford opportunity for critical observation; for it appeared as though Mr. Rickman had taken care in writing it to cut away all ground for discussion and avoid all matter for argument. What the Paper supplied was a code of principles, very clearly defined, in relation to the conduct of building matters; but it occurred to him that the Paper would have gained in usefulness had the author gone on to illustrate his principles, and connect them with actual practice, by showing the extent to which they governed questions which had been the subject of litigation and dispute. For example, there were cases which had gone from court to court, and been the object of varying decisions, which might have been instructively examined in connection with the principles laid down by the author. One of the most interesting of these cases was *Thorn* v. *The Corporation of London*, arising out of the construction of Blackfriars Bridge, and another, equally interesting, and turning on the right to lateral support,—the case of *Angus* v. *Dalton*. A third case, touching the transfer of risks, was *Bower* v. *Peate*, the most recent being *Percival* v. *Hughes*, which related to a house which fell down in the Haymarket some years ago, where it was decided absolutely that the employer could not transfer his risk in certain cases, notwithstanding an agreement to the contrary.

The author, in pursuing the important subject he had undertaken, might treat these and other similar cases as

illustrations, and by following out the varying decisions and reasons assigned by the judges, with, he ventured to think, results very useful to the Profession. While upon this point he might suggest that their excellent Secretary might add to his other labours by making a collection of cases of the kind, so as to save the Members the time and trouble involved in tracing the various decisions through the Law Reports and other publications. A compilation of this sort in which the judgments of the various courts and the arguments of counsel at each stage would follow on consecutively, could not fail to be of great advantage to the Students and the younger Members of the Institution, and he hoped the Council would take the suggestion into consideration, and request Mr. Rogers to carry it out.

There was one risk, and a very serious one from a builder's point of view, which Mr. Rickman had only touched on in his Paper—the risk, when the quantities were supplied, of their inaccuracy and the responsibility for it. A builder making a tender on quantities which turned out to be inaccurate would want somebody to make good the difference. Who was actually responsible? Some architects took out their own quantities, and were in the habit of appending to them a stipulation that they were not responsible for them, and sometimes even went the length of saying that three days or a week would be allowed, after the tender was accepted, for the builder to verify quantities which had occupied the architect a month or more in taking out. If a mistake occurred under such circumstances, or where, say, an impecunious Surveyor was appointed, who was responsible? Was the builder to be at the loss?

He might call attention, in connection with this point, to an advertisement which appeared in that morning's *Times*, to the effect that the Commissioners of Her Majesty's

Works were prepared to receive tenders for the erection of certain works, and that bills of quantities and forms of tender could be obtained at their office on payment of £1—the sum so paid to be returned to the persons who send in tenders; but that "The Commissioners do not hold themselves responsible for the accuracy of the bills of quantities, which must be verified by the persons desirous of "tendering." Was it possible that a gentleman so distinguished as the Secretary of the Office of Her Majesty's Works could put his name to such an advertisement, knowing what it meant? Similar advertisements had been repeated for years past, but surely The Surveyors' Institution should make a representation that an advertisement of the kind was not creditable to the Department. Bills of quantities were provided in this case, and the builder who was about to tender had no choice in the selection of the Surveyor who took out those quantities, and, though he knew nothing about him, was told that the persons who handed him over the quantities, and for whose benefit the work was done, did not hold themselves responsible, and, beyond that, actually invited the builders to verify the quantities before they tendered, with the view, apparently, of relieving the Surveyor also of all responsibility. The absurdity of the proceeding, to say the least, only needed pointing out to the Department to secure its discontinuance; but so long as such a practice was adhered to, it could not but encourage those practitioners before alluded to—who sought to obtain the utmost remuneration for the least work, imperfectly performed, and by such equivocal precautions to protect themselves from the liability which would otherwise attach to the work they undertook.

The most startling proposition was that contained in the last paragraph of Mr. Rickman's Paper. In its present form, and without further explanation from the author, he

would not enter upon its discussion, but he expected that Mr. Rickman would, on a future occasion, place his ideas thereon before the Institution in such a shape as admitted of discussion, and add to the obligation he had that evening conferred on the profession by the admirable contribution he had made to the "Transactions."

Mr. Josiah Hunt (Fellow) was inclined to express himself even more strongly than Mr. Cates with reference to advertisements of the kind to which he had alluded, but he hoped the result of the notice which had been taken of the matter in that room would be to put a stop to what he could not help characterising as a very unfair and unreasonable proceeding.

For what were the facts? Here was an advertisement, emanating from a public department having at its disposal every means of obtaining the most accurate bills of quantities, asking builders, time after time, to tender on quantities which they would not guarantee, and, worse than that, inviting them to do what was impossible, viz., to verify them before sending in the tender. Any one who knew what taking out bills of quantities meant must be aware that this involved beginning *de novo*, and comparing, when finished, the one set of bills with the other.

Turning to the Paper under discussion, he could have wished that Mr Rickman had treated a little more fully the question of building risks and their incidence. Almost the most severe risks to his mind from which the builder now suffered were connected with the Employers' Liability Act, and this, with other similar liabilities to which the builder was subject, must always be taken in account by him as possible contingencies. All contracts, he held, should be fair between employer and employed. They were not to be regarded as arrangements by means of which one party was

endeavouring to best the other. Their proper object should be to ensure the employer fair value for his money, and the builder proper payment for his work; and whatever liabilities were thrown upon the builder, no matter in what shape or form, if he were wise in his generation, he would take care to provide against them by insurance. The liability might be equal to 1 per cent. or to 10 per cent.; but, whatever it might be, he should guard against it in the way he had referred to. He did not approve of throwing responsibility on the building-owner in respect of contingencies. The building-owner had, say, £10,000 to spend, and did not want to spend more. The builder, on the other hand, had the work he had to do distinctly put before him with all its risks and contingencies, and, as a man of business, was invited to make his estimate accordingly, and should be bound by it. He would not, however, throw the responsibility of bad foundations on the builder, except in special circumstances, but all ordinary contingencies and risks. He held it to be the business of the quantity-surveyor to do a great deal more than he very often did. He should not only put before the builder what the architect put before him, but he should know of his own knowledge the risks to the builder, and should place them before him, so that he might make his estimate accordingly and leave the building-owner absolutely free from liability.

There were other things which might occur to the detriment of the building-owner, and to which Mr. Rickman hardly adverted—such, for instance, as other works being carried on to the prejudice of the work in question, the bankruptcy of the builder, and the resulting confusion; but these and other points he would leave to those who followed him.

Professor Kerr (Visitor) thought Mr. Rickman's Paper

a more than usually suggestive and useful production. He could understand the horror of Mr. Chatfeild Clarke at the suggestion made by Mr. Rickman that a Surveyor might possibly be employed in assisting in the selection of an architect. He did not say that he agreed with Mr. Rickman, but he would not say, on the other hand, that he disagreed with him. He would at any rate remind gentlemen present of the circumstance, that in the highest quarters of building enterprise in this country an eminent Surveyor, a Member of the Institution, did advise in the selection of the architect; and he thought that if he advised a little more than he did, the Government might possibly be grumbling a little less than they were at the present moment in respect of some of their great building transactions.

The author had treated the matter philosophically. He had pointed out, what was often lost sight of, how building contracts made arrangements for shifting from the shoulders of one man on to the shoulders of another certain risks which ought not always to be so shifted. This was a commercial country, and were it not for the peculiarly complex conditions of business transactions in England, a building contract could hardly be justified. Such contracts were of very modern introduction. He was not able to go into their history, but, as a matter of fact, it was only within recent times that they had been accomplished fully. They were the most complicated, the most difficult, and, in many respects, the most unjust contracts that commercial enterprise had ever been able to achieve. The practice of transferring from the owner of the building to the shoulders of a man who, by the exigencies of his trade, carried on his occupation under circumstances of competition by tender, all the risks, uncertainties, and contingencies, and, he might say, all the inevitable certainties of unforeseen and unforeseeable

incidents, was a very serious matter as a question of business, and when it was stated, as it had been recently on the best authority, that there was scarcely a building contractor in London who could make his bread, it was a momentous matter indeed for the profession to consider; for he had heard it stated in so many words that, were it not for engineering contracts and jobbing work, the building trade of London could not live.

What had brought about this state of things? It was the risks and contingencies of contracts. Would any gentleman in that room deliberately take on his shoulders such contingencies and go into the building trade? He had always found, in his experience in building, that unless a contract was fair—unless it was entered into by both sides on the basis of doing what was just between man and man—it was not likely to end happily; and that was what architects did not consider in many instances. He held no brief on behalf of his profession; he spoke his mind plainly, and if it was not liked he could not help it. He did not say anything against them, but he would say nothing to hide their failings. There were many of them throughout the country who considered it their business to get a builder to take a contract at the lowest penny he could possibly be got to accept, and then let him take the consequences if he could not carry it out. He might be wrong, but he had always advised his clients to look upon the precise amount of a contract as regarded its ultimate realisation to be uncertain, and would never tell any man that he could depend on the builder doing the work including all contingencies for a definite sum of money, at a loss.

Some architects (in the last generation particularly) had been known to have a happy knack of avoiding extras. The gentlemen of whom he spoke had acquired, in an empirical way, a knowledge of the average percentage

the extras would run up to, having regard to the character of their client (which was the most important element in the matter), and put on, say, 10 or 15 per cent. and said nothing about it to the client, and when the balance was struck would boast that they had carried through the work, not only for the amount promised, but, perhaps, for 2½ per cent. less. He remembered a gentleman, well known in London, for whom he had work to do in his younger days, to whom he showed an estimate which included extras = £500. The amount, however, was struck out. But before the work was done the estimate had doubled itself. Everything depended on the character of the client. It was especially unfair to lead any builder to suppose that he was expected, as a matter of commercial honesty, to take on himself contingencies such as were attached to some building contracts; and, indeed, when he found an architect imposing them on a builder, he failed to see even the commercial character of the proceeding.

One of the speakers had spoken of the insurance of contingencies. Every one knew what insurance meant. There was no such thing in an individual contract. The philosophy of insurance was to arrive at an average upon a multitude of transactions. How could the builder insure his contingencies unless there were a combination of, say, a thousand builders to insure each other's contingencies, which could scarcely be expected? Therefore the word "insurance" ought certainly not to be used in relation to builders' contingencies.

The question of arbitration in all differences on contracts had not been alluded to by Mr. Rickman. It was now, as everybody in the room knew, an established and approved custom. Both the builder and the architect must be careful, however, in appointing the arbitrator, and it was

particularly advisable not to appoint him before the difficulty arose, as the ordinary form of new building contracts invited them to do. The gentlemen present knew what he meant when he said—Wait till the difficulty arises and then be sure that a good man is appointed; one who understands the issue, and is willing to act with a little elasticity and liberality should the circumstances of the case require him to do so.

Mr. C. K. Bedells (Fellow) thought that Mr. Rickman had shown himself well qualified by his great experience to read a Paper on this subject, and that he had treated it in a very fair, and he might say, judicial spirit. All were probably agreed that building risks were very considerable, and that any one who could diminish those risks would be doing good service, not only to his profession, but to the public at large. He believed that these risks deterred many from embarking in building enterprises, and led others to adopt the motto, which he did not hold with, that, "Fools build and wise men buy!" He believed, also, that these risks had led to the introduction and development of the speculating builder; to the erection of a very inferior class of buildings, in which more attention was paid to what was showy and called ornamental, than to the weightier matters of good foundations, damp-courses, sound construction, drainage, ventilation, and sanitary arrangements; and had led also to a sense of uncertainty which most people believed, more or less, attached to the employment of an architect, so that not only in the construction of small, but also of very important works, they were consequently induced to carry them out without any proper professional superintendence.

He did not concur with all that Mr. Rickman had put

forward. He did not agree with him, for instance, that the state of the bottom was a contingency which should wholly fall upon the builder. It had never fallen on the builder in his own practice, and he did not think it ought to. The right plan was to ascertain, and to give, as he had always been accustomed to give, as full a description as possible of the building works proposed, and to point out all the risks and liabilities so far as he could do so.

But there was a class of risks after that, which might fairly be made a question of provision, and, when he said that, he did not mean an open and uncertain provision which could not be dealt with afterwards, but of specific provision for the clearly-expected yet uncertain risk. One of the points which, in practice, he made provision for was the uncertainty of foundation. It was no secret—it was not hidden from the employer at all—but appeared in the specification and in the quantities, and as a matter for after settlement. It seemed to him that this was a much fairer plan than to throw it wholly on the builder or the employer, who would be practically unaware of and unprepared for it. It was so usual a contingency that it was fair to make a definite provision for it, and settle it up afterwards.

Irregularity of payment was referred to by Mr. Rickman as one of the risks attaching to the builder. In the practice with which he was connected this had never been a risk for the builder, for he thought every architect was bound, if there was irregularity of payment on the part of the client, to tell him that he should pay fair interest on the deferred payments.

The risks connected with the state of adjoining premises were not easily ascertainable, and it was a fair thing to put down a certain amount of provision in respect of them, for it occasionally happened that it was not only necessary to look

at the adjoining house but at the next house also. He had known cases in which houses leaned one against the other, like a pack of cards: the builder had a right perhaps to go and inspect the first house, under the party-wall notice, but no right to inspect the second, and it would be quite proper that a provision for this risk should be frankly put into the bill of quantities and into the specification.

The employment of tradesmen for patented articles he had found from experience to be one of the things which involved, perhaps, more trouble than anything else. It seemed hardly fair that the builder should be expected to employ such things without special remuneration, and it was his practice to put matters of this kind through the builder's estimate; but there was a risk in so doing which he should like to point out, and one illustration might suffice. He remembered a case where he had arranged with the patentee an estimate for DENNETT's flooring. Tenders were given for the works, including a specific sum for so much of this fire-proof flooring, and the contractor was supposed to be a responsible man. He gave the order to DENNETT, but before he came to the end of the work the man failed. He had been paid at the usual rate of 75 or 80 per cent. on his contract and his creditors wished DENNETT to take 5*s.* in the £1, or whatever it might be, but DENNETT said to him, "I shall do nothing of the kind. I do not know the builder. I gave the estimate first to you and I look to you for it." This was a rather curious contingency, and if he had not had (what he advised all to have) a definite provisional amount named for this work, which was to be matter of account afterwards, he would certainly have been landed in a difficulty and would have been saddled with the cost of DENNETT's flooring, or the difference between (say) 5*s.* in

the £1 paid by the contractor or his assignees, and the full amount of DENNETT's contract.

As regarded the risks to the employer, his own feeling was this, that with a plan well considered with the client some months beforehand, a great deal of excess of cost could be avoided. It was caused in this way. A client came to an architect when he wanted to begin to build, instead of coming two or three months beforehand. But when sufficient time was allowed, and when the client knew his mind and had gone thoroughly through the thing with his architect, the excess, he thought, should never without further orders be more than 10 and rarely more than 5 per cent. upon the amount of the contract.

Day-work was, in his experience, the most misleading and unsatisfactory that architects had to do with, and he would reduce it to the very lowest minimum. Without attributing dishonesty, or a wish to swell the account, to a respectable contractor, he believed that when workmen knew that work was to be arranged for in this way they did not always give a full day's work, and it was almost impossible to get a fair record of the time without a clerk of the works continually on the spot.

Almost any amount of time should be spent with the client in considering his plans and specifications, and after these had been so fully considered, if the client would go abroad for six months, it would be the best thing he could do in many cases. The client who was about the building day after day almost inevitably failed to realise what would in the end be the true state of things, and certain comments on the work came up with almost invariable regularity, such as the smallness of the rooms when unfurnished, the deficiency of light, owing, of course, to the absence of light-reflecting surfaces, and so on.

Every practical man present had probably heard such observations over and over again. The most extraordinary instance he ever remembered was where the architect went away for six months and left the thing in the hands of (it might be competent) assistants, but they had not the influence with, nor the confidence of their employers to the same extent as their principal. He was called in in that case as the builder's agent, and when the architect returned, he found that 180 drawings had been made for the building, expressing the various alterations, but not one of them could be worked to without alteration in settling accounts for the work, and all had to be measured, and, as might be imagined, it was a most difficult business to settle up.

As to provisional amounts in the contract, and their effect on it, he noticed in a discussion in that room not long ago (he thought on a Paper by Mr. Turner), and also in Mr. Rickman's present Paper, observations which seemed to imply that the introduction of provisional amounts upset the contract for a lump-sum or complete chattel, or laid the work open to be all measured over again. He could only say that the introduction of provisional amounts in the way he had suggested, had never, in his experience, led to the reopening of the contract. If he went into a tailor's shop and ordered a coat, and the tailor said to him, "It is £3 10*s.*, but if you have a velvet collar it will be 10*s.* more," surely if he had a cotton-velvet collar it would not upset the contract. The price to be paid must be something between the £3 10*s.* and the £4, and the same reasoning applied to the case of provisional amounts. Supposing a provisional amount made for a foundation (say) four or five rods of brickwork were distinctly mentioned to be used as directed, and any part or the whole to be deducted if not

required, the amount to be ascertained afterwards, surely it could not be said that this would make void a contract for a definite amount.

Litigation was, perhaps, the most considerable risk to be confronted in building contracts. There was also the risk in small contracts of the costs of a reference. Professor KERR had expressed his approval of the system of reference, and he (Mr. BEDELLS) could quite see its value in connection with the larger class of contracts; but the less opportunity left open for dispute in small contracts the better. The Building Acts had, he thought, done a good deal towards taking these building matters out of the hands of solicitors, and putting them into the hands of Surveyors, who were more technically acquainted with them; but he thought that if a form of contract could be drawn to reduce the mere possibility of reference, it would be a good thing. If one happened to get hold of a litigious man on either side, builder or client, the other side, rather than go to litigation or reference, would prefer to pay £100 more than was felt to be equitable, and it was an opportunity to put on undue pressure. Although he was accustomed to work from quantities prepared in his own office, he could not say he found the risk increased by it, but rather diminished, because he thought it led to a more complete preparation for and study of the work beforehand. The best proof of the advantages of the arrangement was that during the course of 30 years his firm had been and were still working with the same clients and builders, and there could not, therefore, have been much injustice done.

Mr. E. C. ROBINS (Fellow) thought the Paper extremely valuable, as indicating for the information of all parties the risks and contingencies connected with building

contracts—risks which young architects especially were very apt to overlook.

He had not met with architects who, as described by Professor KERR, treated builders with want of consideration. He believed, on the contrary, that as a rule they honestly strove to do justice between client and builder. Neither had he found employers so unreasonable as they had been represented to be with reference to extras of a kind that could not be foreseen or provided for. For his own part, he always endeavoured to treat the builder fairly, and never had a contract yet in which he allowed him to pay for things the benefit of which went to the principal in the contract. He believed that with a fair contract, and quantities properly taken out by a professional surveyor, there was no fear of the principal being injured. Litigation usually resulted from one side or the other seeking to take an unfair advantage. Mr. CATES's suggestion as to cases in point would prove this to be so, and, if collated, they would form a valuable supplement to this interesting Paper. If extra works were required for foundations, the employer should pay for them. It was not fair to put a risk of the kind upon the builder, and no architect should encourage the practice. Unfortunately, public bodies had of late years shown a preference for the plan of concentrating the risks and responsibilities upon one man, and getting him to contract to carry out the whole business. It was an objectionable system, and it had been carried to such a point that there were instances in which great capitalists have been found willing to take even railway risks, and provide and pay the engineers, architects, and other professional men, whose services were required for the work. It was a practice injurious in the long run to the employer's interests, as the contractor naturally took care to secure himself against the

risks with which the contract saddled him, and was perhaps not over scrupulous in the way in which he did so.

It should not be very difficult to decide the rights of employers and the rights of builders on the basis of common honesty and justice, and to provide for the amicable settlement of any dispute that might arise by means of a reference before an architect or Surveyor, or some other qualified expert likely to do justice between the parties.

On the motion of Mr. H. H. Collins (Fellow), the discussion was then adjourned until the next Meeting.

No. 205.

AT

THE ORDINARY GENERAL MEETING,

Held on Monday, 11th February, 1884.

THE PRESIDENT (MR. T. SMITH WOOLLEY) IN THE CHAIR.

The adjourned discussion on the Paper by Mr. T. M. Rickman, read at the Ordinary General Meeting of Monday, January 28th, 1884, and entitled "Building Risks and their Incidence," was resumed by

Mr. H. H. Collins (Fellow), who said that, in moving the adjournment of the debate, he had expressed some surprise at the nature of the Paper. He was sure that Mr. Rickman would believe him when he stated that no one in that room entertained a higher regard for him personally, and for his ability and well-deserved position in the profession, nevertheless, as "False praise is satire in disguise," he would forgive him if he criticised rather freely his production written as it was, and as he admitted it to be, "from a Surveyor's point of view."

The author concluded his Paper with the interrogatory "who so fit to assist in selecting an architect as the quantity-surveyor?" Now, he (Mr. Collins) replied certainly not the quantity-surveyor, for observe the quantity-surveyor's opinion of the architects as depicted in the Paper.

Among the risks enumerated by the author were the "idiosyncrasies of the architect"; "the employment of 'other tradesmen' specially named by the employer or

architect"; the "sporting items"—introduced by the architect, or they could not or would not find a place in the quantities; haste in the conduct of the work leading to throwing over of points of detail, and the incompleteness of the drawings and specifications; the specification being "so worded as not to express the fair meaning of the words used," and another risk, that the architect "may mulct him in various ways," and may increase what the author was pleased to call risks by "exercising the power of changing materials," and keeping "parts of the building in abeyance to such an extent that a builder cannot take advantage of the condition of the markets."

The author did not assert, but inferentially urged, that an architect might endeavour to "best" the builder, and had wound up his indictment by insinuating that, if the quantity-surveyor were to select the architect, the evils foreshadowed might be avoided. But who were the architects to whom all these observations applied?

Such an inversion of professional practice as seemed to be suggested would materially increase, instead of decreasing, the chances of risk. Though he admitted gratefully the great assistance which a well-qualified quantity-surveyor could render a qualified architect, he maintained that if the architect was incapable of meeting and dealing with the various artistic, legal, and constructive questions which were presented to his notice, to quote Mr. Rickman his "*raison d'être*" was at an end. Othello's occupation was gone.

The author seemed rather to assume that the architect and builder were natural enemies, only prevented from destroying each other by the intervention of the quantity-surveyor. If this were so, he would agree with him that the "risks" which he had enumerated in the Paper, but which he ventured to assert did not exist, were formidable to all parties engaged in building operations. But he (Mr.

Collins) repudiated these conclusions, and, speaking of architects as he knew them, he ventured to assert that the only real protection that both client and builder had was in the honest and painstaking desire which architects evince (often under extreme pressure and difficulties) to hold the balance so that neither client, builder, nor quantity-surveyor shall have real reason for complaint.

And here he might observe parenthetically that he greatly regretted the observations of Professor Kerr, and cordially sympathised with those of Mr. Chatfeild Clarke. He held it to be a misstatement of fact to assert that any respectable architect considered it his business to get a builder to take a contract at the lowest penny he could be induced to accept, letting him take the consequences if he could not carry it out.

With one other remark he would dismiss this portion of the Paper. He would make it "from an architect's point of view," and base it on an experience of over twenty-five years. It was this, that the greatest risk that architect, builder, and employer ran was the selection of the quantity-surveyor, who could, and unfortunately often did, produce from the requisite order the most complete confusion; but who on the other hand could disentangle and assist so well as the honest, capable, and willing quantity-surveyor? But let him take the position which he was fairly entitled to, and not assume or desire more. He thought, indeed, that Mr. Josiah Hunt, as might be anticipated, had clearly put before the Institution the real relationship and position of the quantity-surveyor.

Now, it might be asked, were the points set out by the author of the Paper risks at all? and did not the observations made by Mr. Bedells and Mr. Robins absolutely show that, with few exceptions, there were less risks to be encountered in building operations than perhaps in any

other commercial transaction? Unfortunately, what small risks there were, as Mr. Rickman pointed out, really fell on the employer, and even these might be in a great measure avoided; indeed, it was ostensibly the object of the architect and surveyor to eliminate them. Surely the majority of risks set forth by Mr. Rickman were due to ignorance, want of care, or even recklessness; indeed, the author had pointed to this solution of risks throughout his Paper. Were the incidents he mentioned then more peculiar to building works than to any other business operation?

It must be a contract extending over a very long period, which would be affected by changes in the price of labour; and if such were probable, the builders and their Association would inevitably guard themselves from the consequences; and he would be a bad man of business indeed who did not ascertain and provide for the cost of special materials.

He maintained, with Mr. Bedells, that the bottom of a building was no risk of the builder's. Every duly-qualified architect would ascertain this, more particularly in face of the legal decisions on the subject, and would advise his client of the probable additional amount which would be incurred, and where thus foreseen and provided for, it could not be designated a risk.

The next item, again, was no risk. The builder, guided by the architect and quantity-surveyor, can and does easily ascertain the value of bricks and other materials necessary for his contract, and this surely formed a part of his contract unaccompanied by risk.

The state of adjoining premises was not the builder's risk, and the capable architect would provide for this, and call his client's attention to the facts. If the property be already acquired, it has or ought to have been considered in its value. If in possession, by inheritance or otherwise, the fact would be discounted and provided for before any building

operations were entered into, and, under any circumstances, a prudent builder would insure himself against loss. Indeed, he had found it to be the practice of sensible builders to put building contracts into the hands of their professional advisers, who generally pointed out to the architect the necessity of clauses for the protection of their clients; and what reasonable architect would endeavour to shift, even if he could, the responsibility on to the shoulders of the contractor? Mr. Rickman, indeed, admitted this.

Risk of irregularity of payments he failed to recognise as such. The builder could stop the works, and could make himself acquainted with the financial character of his customer before commencing operations. In any case, similar risks applied to every business transaction that he was familiar with.

Risks arising under the Employers' Liability Act were not in any way special risks.

As regards the "idiosyncrasies of architects"—admitted that they possessed some of the weakness inherent to humanity—the law would amply protect the builders if imposition were attempted, but, he would ask, what was the risk to the architect who had to deal with an unscrupulous builder?

As to whims of clerks of works, it had been laid down that they were merely the representatives of the architect to ascertain that the drawings, materials, and workmanship were properly carried out, and, if at all unreasonable, the builder was protected by reference to the capable and just architect.

As to the last item, "inaccuracy," the risk could and should be avoided by care and prudence, and where estimates were properly checked this should not occur.

As to employers' risks, if the original work were carefully conceived and arranged by a capable architect there

was no risk of cost over contemplated expenditure, because it would be his duty, if there were any exceptional circumstances, to advise his client thereof, and provide accordingly. Of course, to a man building for pleasure and to satisfy his whims and fancies, this would probably be considered a necessary consequence, and not a risk at all.

So with respect to delay in completion, an additional time would invariably be considered, and only under exceptional circumstances would liquidated damages be enforced. Personally he was happy to say that he had never had occasion to enforce a penalty.

The last items in Mr. Rickman's list were surely not risks to be calculated, always supposing able architects to be employed, and if not, they were not risks but neglects upon the part of the employer, for which he deserved to, and undoubtedly would, suffer.

In his Paper Mr. Rickman had suggested risks which he had only set up apparently to be put down. He said that, if builders took risks with which they were unacquainted, difficulties would ensue, *ergo* they ought not to undertake them, and if recognised they could be avoided.

The author, on page 121, pointed out, in effect, that there were no real risks. Surely the paragraph should read :—"If the proper distribution of duties and responsibilities are fairly undertaken by architect, surveyor, and builder, the client and all parties interested are amply protected, and no special risks arise."

It was always to be presumed that an architect was employed; if not, the client sought risks, or rather pitfalls into which he must inevitably fall: for why should it be assumed that in so important and costly an operation as building he would not seek competent advice as he would in any minor business arrangement? If he did, then Mr. Rickman, at page 122, admitted that the risks, or as

he (Mr. Collins) would say "the responsibilities," rested with the architect.

And here he would add a word as to the "sporting items" before mentioned. Was the profit advocated to cover risks by Mr. Rickman not a "sporting item"? If the builder be justified, was not the architect justified, in providing a sum to cover contingencies, the benefit of which, if not used, returned to the pockets of his employer? Was this a sporting item? Was not the client thus prepared for a probable outlay and better pleased with a reduction than an addition? The truth was that where honesty existed on all sides there were no exceptional risks, and if any such arose they could be easily adjusted.

With regard to architects taking out quantities, he was of opinion that it was better for them not to do so; but he considered that they should understand, supervise, and read them over from the dimensions, and for this labour he thought they should, with their clients' approval, be recompensed; and if architects were careful in the selection of their quantity-surveyors, the latter would prove a great solace to them under difficulties, a great assistance throughout the work, and would effect a great and ultimate saving to the employer.

Unfortunately, however, in these days, instead of each profession, trade, or business confining itself to its own work, each continually overlapped the other, and consequently work was imperfectly understood and carried out. Thus, lawyers had become valuers and house-agents; auctioneers, architects and builders; upholsterers and cabinet-makers, all three of the foregoing; paperstainers, poets and art critics; quantity-surveyors, architects; and architects, surveyors and, sometimes, quantity-surveyors. It would not be surprising to find the "universal provider" furnishing professional assistance upon co-operative principles, but whether this would

diminish risks, must for the moment be left in the region of speculation, let it be hoped not of experiment.

Day-work was a real risk for the employer and architect, and the only one which he could recognise as peculiar to building works. Who that had had to deal with it either for a client or sitting as arbitrator but must remember with pain and suffering that dreadful document, a day account; and he ventured to assert that even the quantity-surveyor was powerless to prevent this risk, but it might be avoided by the capable architect (although he admitted it required scrupulous care) by taking precautions to insist upon settling every detail at a price, and by letting the builder understand that this would be insisted on from the commencement of the work.

There was just one other real risk, and that was the bill of extras as made up by the unscrupulous or sharp quantity-surveyor, when surveyors' and builders' "idiosyncrasies" had had full play. When "sporting items" were inserted, the architect, if an incapable or a nervous man, would find himself hopelessly involved in a well-spun web of complicated items, the builder sending in a large account in the hope of getting what he could, and often satisfied with half the amount claimed, which was then generally twice as much as he was entitled to receive: then it was that the "idiosyncrasies" of the architect were complained of, and he was portrayed as an unreasonable and harsh man, getting, probably, little thanks from his employer, condemnation at the hands of the builder, and abatement of his fees for the work involved in this thankless and profitless task; his only reward being the consciousness of right-doing.

So far as risks were concerned in building works, they were neither more nor less than in other transactions, assuming that proper precautions were taken in the first instance, and making due allowance for human fallibility.

Given a capable and honest architect, an intelligent and conscientious quantity-surveyor, a proper contract, based upon well-drawn quantities and carefully-written specification, and both employer and builder were well protected, and, practically, there were very few risks incident to the work.

He was sorry that Mr. RICKMAN did not touch upon some of the real and, oftentimes, unavoidable risks which were peculiarly incidental to building works. Those which, he thought, might be fairly classed as "occult" though legal risks and remedies were such as—

Risks as to architects, quantity-surveyors, and builders;

Risks as regards support, lateral and vertical;

Risks as to light and air;

Risks as to party-walls, &c.

The following citations of cases would illustrate some of the risks which should be enumerated. For example, the risk of entering into contracts with public bodies, except the same be under seal, illustrated by *Moon* v. *Witney Board of Guardians*, *Armstrong* v. *Brighton Board of Guardians*, and *Hunt* v. *Wimbledon Local Board*, where it was held that, although work was done, still, if not beneficial to the employer, it need not be paid for.

Duncan v. *Blundell*, where it was laid down that an architect must be reasonably competent for the task he undertakes, and was not only responsible for himself but for those he might employ under him.

Moneypenny and Hartland and Whitby v. *Lord Dillon*.—Showing that where architects made estimates which turned out to be incorrect to a considerable amount, and their work was of no use through their omitting to take ordinary precautions as to examining ground for foundations, they were not entitled to recover anything for plans, specifications, &c., and where an engineer was employed to build a bridge and

form a road to it, he was bound to ascertain by experiments the nature of the soil, and this although a person previously employed by the committee had made experiments and gave him, by their desire, information of the results of such experiments.

In *Moon* v. *Guardians of Witney Union* (as opposed to Mr. Rickman's suggestion) it was laid down that the architect was agent for his employer, and that part of his implied authority was the selection and employment of the quantity-surveyor; and where it was also held that the clerk of works' duties extended to see that the specification was carried out, that materials and labour were of nature and description specified—*i.e.*, he was only the medium through whom the architect's wishes were conveyed to the builder, he having no authority to make any alterations or charges without written instructions from the architect.

Then with reference to builders, there was the case of *Lewis* v. *Brass*, where the builder discovered that he had made an error in his tender and withdrew it, the work being afterwards completed by another contractor, and the difference of cost being recovered against him on the ground that the contract was made and completed when the tender was sent in and accepted. Had the tender been sent in "subject to signing a contract," it would only have been a proposal for contract.

The case of *Kemp* v. *Rose* and *Kimberley* v. *Dick*, where it was laid down that the builder would be in general bound by quantities unless he could show improper dealing or that the employer guaranteed their accuracy. It was suggested that it was not advisable for architects to take out quantities, and that they should hold an impartial position.

The case of *Allen* v. *Moxall*, from which it appeared that if details were obviously necessary, although omitted, builders must supply them without cost. Thus, where

joists were specified but flooring omitted, it was held that the builder must supply it.

The case of *Thorn* v. *Mayor of London*, where there was a contract to take down an old bridge and build a new one. Part of the plan consisted in the use of caissons, but they turned out to be of no value and much time and labour was wasted. The builder claimed compensation for extra cost, labour, &c.; and it was held that there was no implied warranty that the work could be successfully executed according to plans and specifications, and that the builder must examine for himself, and, if he undertook the contract on the basis of a specification which underrated the amount of work or specified an impossible mode of doing it, he would be bound by the contract.

The case of *Hughes* v. *Percival* and *Dalton* v. *Angus*, where it was held that if any employer ordered work to be executed, lawful in itself but from which, in the natural course of things, injurious consequences to his neighbour might be expected to arise, the employer would be responsible for any damage which resulted from the work; and this, although the builder employed was competent, and had been directed by the employer to take proper precautions in executing the works. In the first case it was absolutely decided that under no circumstances would the employer shift his responsibility, and in *Bowers* v. *Peake*, where the plaintiff and defendant were respective owners of two adjoining houses, the plaintiff being entitled to the support of defendant's soil, and defendant employed a builder to pull down his house and excavate foundations, the builder undertaking, as far as might be necessary, the risk of supporting the plaintiff's house during construction of works, and of making good any damage arising therefrom, and plaintiff's house was injured owing to builder not having taken sufficient precautions, it was held defendant was liable.

In the case of *Angus* v. *Dalton* and *Dalton* v. *Angus*, the law of lateral and vertical support was very fully argued, the result shortly expressed being that an ancient building was entitled to a right of lateral support if the same be not secretly acquired. But a further and very important decision had been arrived at in a more recent case, *Lemaitre* v. *Davis*, where it was held that where ancient buildings belonging to different owners adjoin each other, there was a right of support from the building as well as from the land, and this right of support could be determined under the Prescription Act (2nd and 3rd William IV., c. 71); though of course the right must be open, and not clam. Damage having been done by an unskilful act of the contractor or his workmen to a neighbour's vault, it was held that both employer and contractor were liable for it, and judgment was given for plaintiff, with costs against both employer and contractor.

With respect to ancient lights, amongst the numerous cases, he would direct attention to a comparatively recent decision (in which the late Master of the Rolls, Sir G. Jessell, gave judgment), as one likely to be useful and to materially diminish the risk of stoppage of building works by injunction. It was the case of *Carter* v. *Lawes*, in which the Master of the Rolls said that since the Judicature Acts, even where what might be termed some substantial damage was shown, the Courts had a discretion as to granting an injunction or merely damages. For instance, the Court would not order a building which had cost £10,000, such as the Peabody Buildings, to be pulled down at the instance of a plaintiff who had suffered damage to the extent of £50; and, being of opinion that merely a theoretical diminution of light had occurred, he held that the order refusing the injunction was right, Lords Justices Baggally and Holker concurring.

In considering these risks of light, it must not be forgotten that, although partially adopted in *Hackett* v. *Baiss*, the angle of 45° has diminished in importance, and in several cases (notably *The Ecclesiastical Commissioners* v. *Kino*) had been quite demolished. It was not safe, therefore, to rely on it.

Then there were other notable cases, *Tapling* v. *Jones*, *Theed* v. *Debenham*, and many others quite necessary to be perused in order to get a glimpse of understanding with regard to these risks in which questions of quantity, quality, abandonment of light, as to unity of possession, &c., &c., and other intricate and recondite subtleties, were involved.

There were other risks, such as appertained to drainage of foundations from surrounding land, by railway cuttings, or by building works, obstruction of easements, and a host of legal risks, of much more importance, he ventured to think, than the risks set forth by the author of the Paper; but it would be observed that, with a knowledge of the principles which underlay all these cases, a competent architect could naturally guard his client against most of the responsibilities, scarcely to be designated risks, and in ninety-nine cases out of a hundred did so.

The Secretary, by permission of The President, read a communication from

Mr. G. F. Trollope (Associate), who was prevented by the state of his health from attending the Meeting. After stating that it had been suggested that some remarks on the subject of discussion from a builder's point of view would be useful, and premising that, though no longer engaged in the business, he had for a long series of years the management of building works of varied magnitude and description,

Mr. Trollope went on to observe that Mr. Rickman

began his Paper by stating that all building works involved risks—(1) to builders; (2) to employers. As to this, he thought that Professor KERR adopted preferable terms by respectively describing these two classes as building-owners and contractors. A builder, properly so called, should have hardly any risks, except perhaps those imposed on him by the Employers' Liability Act. But, as Professor KERR had very truly stated, the risks and contingencies by which a contractor was surrounded were embodied in "the most "complicated, the most difficult, and most unjust contracts "that ingenuity had ever been able to achieve." The absolute injustice, and almost ignorance of business, which required builders to "verify the quantities before tendering," had been pointed out by Mr. ARTHUR CATES in his remarks, but he did not comment on another injustice, now frequently insisted on, viz., that parties tendering were to peruse the contracts before doing so.

Builders frequently had several tenders to send in, perhaps on the same day. Was it right to expect them to take the responsibility of perusing, or to be at the expense of sending their respective solicitors to peruse, long legal contracts before tendering? To avoid this latter difficulty, which was felt some years ago, a Committee of the Royal Institute of British Architects and a Committee of the London Builders' Association were appointed to confer together. Meetings were held, with an eminent legal adviser on each side, and equitable conditions of contract were agreed on, to be generally adopted for the future.

Within the last two or three years he regretted to find that this arrangement had been broken down, and (to take one instance) by no less a gentleman than a President of the Royal Institution of British Architects. He (Mr. TROLLOPE) selected some clauses of the contract then insisted on as examples of what he supposed it was considered only

right for a contractor to submit to :—" Should the architect " at any time require the execution of the works to be " suspended, wholly or in part, the contractor is *at once* to " comply with such request, and will not be allowed any " remuneration for loss or damage that may be sustained " by him in consequence of such suspension of the works."

Another ran thus :—" No extension of time will be " allowed in respect of a strike by the workmen against the " contractor, such strike not being general in the trades."

Another was as follows :—" Should the contractor not " proceed with the works in a satisfactory manner, the " architect may withhold all certificates until the completion " of the contract."

The above and other unfair conditions were finally clenched by words as follows :—" On all points connected " with the execution of the works and the performance of " the contract, the decision of the architect is to be final." About half the tenders were rejected on this occasion because the contractors tendering objected to these arbitrary and insulting conditions. Professor KERR was therefore quite right in saying that the question of fair dealing with contractors was "a momentous matter for the profession to consider."

Though he had (as before stated) retired from business some years, he retained, happily, the friendship of many old business friends, and they, one and all, agreed that the business of building contractor in London was passing altogether out of the hands of men who do their work in a first-class manner. Tenders were now received and accepted at prices which architects know were quite inadequate for best work.

This led him to remark on the risks to employers in building works; and these risks, he was convinced, arose in nearly all cases from the desire to put contractors in wrong,

if not impossible, positions. Take the new Law Courts, for instance. This was a contract for nearly a million of money, extending over six or seven years. He pointed out at the time that it was simply a huge gambling transaction. How could the advisers of the Government expect any contractor to foresee or to reasonably speculate on what the cost of labour or materials would be, extending over a period of six or seven years? In this and some other recent Government contracts, contractors had been utterly ruined.

Then, as to the risks to building-owners. A principal one was due to employing builders who had neither the plant, the materials, the capital, nor any other requisites for carrying on good works.

One of the speakers had referred to the purchase of a coat by way of illustrating the non-vitiation of a contract by reason of extras. He (Mr. Trollope) had often used this illustration to an employer in a somewhat different way. He had said to many employers, "If you want a coat or a carriage, you do not put it out to tender and get prices in competition from a Bond Street man and a Whitechapel master. You know that the latter cannot give you a first-class article, and you prefer to pay an extra price and get a good thing; and yet, when you want a house built, you ask me to compete with a man without means who has, perhaps, just emerged from bankruptcy." What was the reply he had often got? "Oh, that is all very well, but Mr. So and So is my architect, and he is a very sharp man, and I look to him to pass nothing but the very best of work." It was of little avail for a respectable builder to urge the fallacy of this. Employers, for the most part, did not see that it was as impossible to "make a silk purse out of a sow's ear" as to get first-class work from unseasoned materials made up in shops without warmth or any proper appliances. Many architects, and especially young architects, flattered this sort

of employer, and acquired business by offering to get building works executed at impossible prices, and establishing a reputation sometimes for having driven many builders to bankruptcy by their shrewdness and zeal for their employers.

The foregoing remarks would, however, in no way apply to very many architects under whose direction he had had the pleasure to work, and who generally displayed a proper respect for and appreciation of the advantages of having respectable and responsible builders, and were alive to the difficulties arising to themselves and their clients from taking an opposite course.

And now as to the best way of arranging contracts and settling any differences arising out of the same. His distinct conviction was that the best and only way was to put the quantity-surveyor in such a position as to render him quite independent of influences on one side or the other. Some quantity-surveyors were supposed to be "architects' men" exclusively, and builders therefore, very naturally, felt distrust of them.

In large contracts he thought the architect should appoint one Surveyor, and that competing builders should (as in old times) meet and appoint another Surveyor on their behalf, to take out the quantities together; and when contracts were completed, these two Surveyors should, if necessary, appoint a third Surveyor to arbitrate in case of difference. The architect who was paid and employed by the building-owner was not a fit arbitrator. However high his character, he was, after all, only a mortal. His distinct interest in almost every point of difference was against the contractor. He (Mr. Trollope) would conclude these remarks by repeating that a very large proportion of building risks were, unfortunately, attributable to selfish views of things, and the absence of, what ought to rule all transactions, a spirit of justice towards others.

Mr. Francis Turner (Associate) had not had the advantage of listening to the opening speeches that evening, but he had read the proceedings of the last Meeting, and had listened to the communication from Mr. Trollope that had just been read by The Secretary. The latter professed to be a statement of the grievances of the builders with respect to the risks put upon them, but he was unable to endorse a good deal of it. Mr. Trollope had put it as a grievous hardship that the builder, who was about to sign a contract for ten or twenty or fifty thousand pounds' worth of work, should be required to read or understand that contract; but that was hardly a grievance that one would expect to come from a man of business so eminent as Mr. Trollope. If Mr. Trollope were asked to sign a bill of exchange, he would at least look to see what obligations he was undertaking. And so if there were unusual stipulations in a proposed building contract, any gentleman of Mr. Trollope's experience would be pretty sure to discover them; and if he could not trust himself in such matters, where was the hardship of having to incur the expense of going to his legal adviser for an opinion about it? The man who signed the tender was supposed to have mastered the conditions of the contract for which he was tendering. If a man were buying a horse he would ascertain its points, and, if he did not feel sufficient confidence in his own judgment, would call in the services of a veterinary-surgeon. Again, if he were asked to adopt some new invention connected with building, he would, not improbably, make experiments involving some expense—much more expense than the moderate fees which lawyers charged,—in order to ascertain whether he was right in adopting it. The builder was, of course, perfectly aware that his tender was liable, when sent in, to be accepted, and that, if accepted, he was bound by

the very conditions of which subsequently he might, possibly, be entitled to complain.

How then was it unreasonable that he should be expected to make himself acquainted with the nature of the stipulations of the contract? Mr. TROLLOPE appeared, from the communication which had been read, to be perfectly alive to the hardship of the possible conditions, and therefore it was no answer at all to the building-owner to be told that the builder had half-a-dozen or a dozen tenders to make in a day, and, being so pressed, had not informed himself of the conditions of the contract.

At the same time he admitted that some of the things mentioned by Mr. TROLLOPE were risks of which the builder had frequently reason, with more or less justice, to complain.

He did not agree with Mr. TROLLOPE that the architect was not in any case a fit arbitrator. He ventured to think experience showed that, in the main, the obligations of the architect as an arbitrator were well and honourably and fairly discharged, or the profession would not hold its present place in public estimation and would not command that amount of confidence which it at present enjoyed, at the hands alike of the building-owner and the builder. Still, there had been cases which proved the possibility of collusion between the building-owner and the architect to withhold the builder's certificate. That was not an unknown, though a very unusual, circumstance. The case of *Batterby* v. *Vyse*, reported in 32 Law Journal, Exchequer, p. 177, was a case of the kind. In that case the courts very carefully laid it down that what was otherwise a condition precedent to the builder's right to obtain his money, was got rid of by the very fact of collusion. But there was another and more subtle form of

the same evil—a form which did not, on the face of it, strike some as being open to the same objection—where the architect had made a contract with the building-owner that the works should not exceed a certain sum. In a case bearing upon the point, *Kimberley* v. *Dick*, reported in the Law Reports, Equity, vol. 13, p. 1, a bargain of this kind, which did not, at first sight, involve any hardship or injustice to anybody, work, worth £25,000, when properly valued, was taken at £13,000; and the architect, having entered upon his duties fettered with this understanding, when asked to certify for extra work, or to certify that things done in the progress of the works had been varied, and the expense thereof increased, was met at every turn with the consideration, How will this look to my employer, to whom I have promised that the works shall only cost a certain definite sum? On that ground, and on that ground only, the certificate of the architect was dispensed with, with the result he had stated. That was an example of the risk which a builder might run, and against which every member of the architectural and surveying professions should especially guard himself, so that when he entered upon his duties he might feel that he had no secret obligation to one party which he had to conceal from the other and which might prevent him from doing justice in the end.

With respect to errors in quantities, the incidence of the law upon the builder was rather hard. In the case of *Kimberley v. Dick*, and, again, in *Scrivener v. Pask*, Law Report I. C. P. 715, it was held that the building-owner did not warrant the accuracy of the quantities. But it was possible for the builder to guard himself against this by making the quantities part of the contract, as was often done. If he recollected rightly, this was stated, in the course of a discussion a year or two ago before the Institution of

British Architects, to be the general practice in Scotland; and it seemed to him to have very much of the element of fairness, although, as regarded the building-owner, it had the disadvantage that he was unable to tell, at starting, what his probable outlay would be. That, of course, was an element which could not be excluded from consideration, for, whilst it was highly desirable that the builder should be paid for his work, it was also equally desirable that the building-owner should know within a little how much he was likely to spend. But the builder really had it in his own hands. If he did not like to tender in the form submitted to him, all he had to do was to refuse to tender; and, possibly, if the intensity of competition in modern times did not frequently impel builders to accept contracts with these very onerous conditions, it might be better for everybody, the building-owner not excepted.

With respect, also, to the engagements of the building-owner, there was a case which went up to the House of Lords, *Thorn v. The Mayor of London*, in which it was held that the building-owner did not, by inviting tenders in a particular way, warrant that the building could be executed in that way; still the Court held that it was the duty of the builder to satisfy himself that it could be so done before undertaking it. If the builder knew the law (and everybody was supposed to know it) and his liability in this respect, he had the power to guard himself, by his contract, against the risk of not being able to carry out the work. If one came to think the matter out, and to consider that the building-owner had so much to spend and did not want to exceed it, it was not unreasonable, if a certain plan were suggested, that the builder, who had special knowledge of constructive detail and special knowledge of the perils he had to encounter and the difficulties he had to overcome,

should ascertain whether the work could or could not be done in that particular manner. As for what Mr. Trollope appeared to think should be the happy lot of the builder—that he should conduct his business with hardly any risk,—he wished, for the builder's sake, that it could be realised; but he was afraid that at present the pleasant prospect was rather distant.

Mr. C. B. Trollope (Fellow) thought that Mr. Turner had rather misinterpreted the statement made by his brother (Mr. G. F. Trollope). What his brother complained of was that the builder had to send in, say, a dozen tenders on a particular day, and had a dozen different contracts before him, and it was impossible for him to find time to apply his mind to each of those contracts, to see if they were fair. Mr. Turner appeared to be under the impression that all the builders who were invited to tender were men of experience, like Mr. G. F. Trollope; but that gentleman was between sixty and seventy years of age, and had acquired an exceptional experience. The majority of builders living, perhaps, in distant parts of the country, were compelled, when invited to tender, to assume the conditions to be fair, as it was perfectly impossible for them to read through the contracts before sending in their tenders. That was all that his brother had complained of in this respect.

Mr. Howard Colls (Visitor) remarked that the Paper now under discussion had been read with great interest by the builders of London, who were fully alive to the difficulties pointed out by the author, and had, all of them, been sufferers from the risks described by Mr. Rickman.

But there were items still more serious than those referred to in the Paper. No doubt, as had been said,

builders had the power to avoid those architects whose so-called "idiosyncrasies" were perhaps worthy of a harsher description, and it was no doubt open to them more frequently to make inquiries into the antecedents of the clerks of works, into whose hands so much power was put. Sometimes the clerk of the works was a most ignorant man—an unsuccessful builder's foreman perhaps, or even a workman,—and yet he was often invested with powers which should be exercised only by a man with a strong sense of duty.

But, after all, a principal grievance of the builders was when the quantities did not form part of the contract. If a building-owner had work done he ought to be prepared to pay for it, whatever it might be. If a warehouseman in Bradford sold a thousand pounds' worth of cloth he did not expect some one on behalf of the buyer to measure it and provide that if the buyer got too much he should not be paid for it. If the builders had the quantities taken by a recognised Surveyor, such as the author of the Paper and other Members of The Surveyors' Institution, they would be satisfied; but for an architect to take out his own quantities, however great might be the belief in his *bona fides*, was, they maintained, wrong in principle.

Again, a quantity-surveyor might be appointed whom the builder might not know. There was a deal of mushroom growth even among quantity-surveyors. If the builder was not quite sure of the accuracy of the quantities, he should insist upon their forming part of the contract. He might mention a case in his own experience, of a large job in the country where the quantities had been taken out by some one who was at any rate not quite conversant with the ordinary methods. In that case he told the architect that the quantities must form part of the contract, and, after some demur, this was agreed to. Ultimately it was found that the quantities were wrong in one item to the extent of

£800. So that, if he had gone on with the work in the usual way, he would have lost £800, and a further £1,500, or over £2,000 altogether. That was not at all an uncommon occurrence, and therefore it was that he contended that it would always be better for the builder to insist on the quantities forming part of the contract.

There was another matter in which builders took the greatest possible interest. As had been already mentioned, some years ago the Royal Institute of British Architects were kind enough to meet the builders of London and arrange a form of contract. After infinite trouble, a form was arrived at which, he ventured to think, was as fair and just as anything could be between two contracting parties. But, unfortunately, that contract had been set aside even, he was sorry to say, by some eminent members of the Institute, which he considered a great misfortune. A contract arrived at after so much trouble and labour ought, he thought, to be generally recognised and adopted.

Another question which had often arisen of late was as to the form of tender which some considered should be a binding contract. Logically he did not see why, if the building-owner shielded himself against a mistake on the part of his architect or surveyor, the builder should not be allowed to shield himself against any mistake by his clerk, or any serious errors in addition, but builders generally would not object to the tender being binding if the form of contract were the agreed one before spoken of. With all due respect to Mr. Turner, he believed it to be absolutely impracticable for the builder to read through every contract before he tendered. As a rule, architects were very late in giving the Surveyors their drawings, and the Surveyors, in turn, did not hurry very much in providing the quantities, and the result was that it was generally recognised that a few hours were sufficient for a builder to prepare an

elaborate estimate. How was it possible for the builder to employ a solicitor for such a purpose in these days, when, unfortunately, he got, say, one job for twenty that he tendered for?

Another reason why the quantities should be made part of the contract was that it was the habit of some architects to send their drawings in pencil to the quantity-surveyor, and they were, consequently, in finishing, liable to subsequent additions.

He had spoken from a builder's point of view, but he did not think he had spoken too strongly. The builders simply wanted those who employed them to adopt a recognised form. If that were done, all their difficulties of this kind would disappear.

Mr. Sidney Young (Visitor) said there was one point in this very useful and interesting Paper which he desired to touch upon, viz., the question of the introduction of a quantity-taker. He believed that where the architect took out his own quantities, in not one case out of a hundred did he inform his employer that he had done so. It was always done in secrecy, and it was only when an independent Surveyor was appointed that the employer was told of it. But, apart from this, he looked upon the practice of the architect taking out his quantities as a bad one from the beginning. The architect had not the requisite special training for the work. His mind was directed more to designing than to what he might call the desk study necessary to qualify him for analysing detail; and this was the main cause of the vagueness and the inaccuracies displayed in architects' quantities. Reference had been made by Mr. Turner to the notable case of *Kimberley* v. *Dick*. In that case the architect took out the quantities, and a very long litigation ensued. Again, the practice put the architect in a

wrong position with the builder. Whilst receiving 5 per cent. from his client for protecting his interest, he was also receiving, perhaps, 2½ per cent. from the builder for taking out the quantities. Therefore, he was in the position of receiving money from both sides—a position in which no honourable man ought to be placed. It was better to have an independent and qualified quantity-surveyor who knew neither the building-owner nor the builder who was to do the work. The builders, however, had the remedy in their own hands. If they would only hang together and refuse to tender on architects' quantities, the practice would soon die out.

Professor Kerr (Visitor) desired to explain that he had by no means intended to disparage the honour of his own profession by the remarks which he made on the last occasion, and which seemed to have offended his friend who opened the discussion that evening. Of course, the majority of architects of standing would not descend to compromise their position in the slighest degree. But Mr. Collins surely knew very well that there were architects to be found in and out of London who did make it their duty to get work done at the lowest possible figure, and let the builder take the consequences.

Mr. H. H. Collins begged permission to explain that it was not recognised by the Royal Institute of British Architects, nor by any honourable member of the profession, that the architect should take 2½ per cent. for taking out quantities. That, by the way, was in itself a large sum; it was generally only 1½. If works were very intricate and comparatively small in amount then it, perhaps, might be 2½ per cent., but this was exceptional; but whenever the architect took out quantities and made a charge of this kind it should be done with the knowledge of the employer, and there was no wrong in performing work under such conditions.

Mr. G. R. Crickmay (Fellow) thought there seemed to be a tendency to assume that the interests of architects and surveyors were in some way antagonistic. He believed that, as professional men, they understood their respective duties and their relative positions, and endeavoured to act fairly and honestly and impartially alike to the building-owner and the builder. It was the duty of the architect to secure the building-owner as much as possible against risks, but what risks there were should, in justice to the builder, be plainly set out in the drawings and specifications. A great deal of the wild and wide tendering now so common was to be laid at the door of the architects who sometimes passed over things which required their attention. When this was the case, it was not to be wondered at if some unscrupulous builders took advantage of it and looked upon it as an opportunity of making profit.

As regarded builders' risks he might mention that a short time ago, at a place close to the Strand, a builder had to excavate 38 feet below the level of the pavement. At a distance of 4 feet only from the excavation was the wall of a four-storeyed warehouse, and no provision had been made for underpinning or supporting the wall in any way. The builder was bound by his contract, and unfairly so, as he believed, to "support and maintain all the adjoining buildings." He was a young and inexperienced man, and did not properly shore, and in consequence let down the wall. The matter came on for arbitration, and ultimately the builder had to pay the expense of rebuilding the adjoining wall. That was an unfair risk to put upon the builder. If a properly-trained and careful architect had prepared the drawings and specifications, he would have provided for the support of that wall.

The risk as to extra depths of foundations was one which should remain with the building-owner; it would be entirely unfair to put it upon the builder, and if the

architect properly prepared his drawings and specifications, and the quantity-surveyor made out a satisfactory bill of quantities, the builder understanding his work would be able to put a fair price on it.

He did not agree that the priced bill of quantities should form the basis of the contract. There were many men who would be quite able to spend £5,000 on a building, but to whom £8,000 would mean almost absolute ruin. It was therefore very much to the interest of the architect, surveyor, and builder that the building-owner, before he commenced his premises, should know pretty accurately the amount he would be called upon to spend. Of course, however carefully specifications were prepared, there were certain to be extras: nothing but experience could guide one in limiting those extras. It was a practice with some architects, with which he did not agree and which he never adopted, to provide so many rods of brick-work, so much lead, and so on. That, he maintained, was not the proper way of covering extras. The proper way was to go at once to the client and honestly say, "I have provided for this building as near as I can, but there is certain to be some small amount of extras, and whatever they are you will have to pay for them." There were few architects of standing who did not feel that they were, to a certain extent, in the position of judges, and endeavoured to do what was fair as between building-owner and builder; and when they acted with this sense of duty things generally resulted satisfactorily.

The writer of the Paper had treated this matter entirely from a Surveyor's point of view; but, if architects admitted that this view was correct, he could not see exactly what would be the position of the architect. What with the engineer, who claimed that he best understood construction, and the surveyor, who claimed that he was the more com-

petent to undertake the business part of the architect's work, he was inclined to wonder where the architect came in. It seemed to him that the architect was the employer's man of business, and it was his duty from beginning to end to protect the interests of his employer, whilst acting fairly towards the builder.

Mr. G. Lansdown (Fellow) thought that the discussion which had taken place fully justified the Paper, because it had shown a very great difference of opinion as to the mode in which contracts should be carried out. The builders were clearly not satisfied with the present arrangement. In a book published in 1833, there appeared identically the same suggestion that had been made by Mr. Trollope—that two quantity-surveyors should always be appointed in large contracts. This showed that for 50 years at least this question had been mooted, and was still unsettled. He submitted that The Surveyors' Institution ought to take the question up and get it settled. Having had considerable experience in quantity-surveying, and having taken out the quantities for contracts amounting in the aggregate to some millions of money, he could not be otherwise than aware that there were cases of great hardship against builders and also against building-owners, in consequence of the way the quantities were sometimes taken out.

It was frequently assumed that a mere clerk might take out the quantities from drawings. No doubt, if the drawings and specifications were fully detailed and correct, this might in simple work be done ; but he could call to mind a case within his own experience, where all that was given him was the ground plan and a perspective from which to take out the quantities for a £5,000 house. If that were done frequently, it was not difficult to understand the origin of extras. In the case referred to, the architect

simply left the matter in the Surveyor's hands to complete the drawings and write the specifications from the quantities, with the result that the building was carried out satisfactorily, with a very small margin of extras. But in that case it might be asked, as Mr. CRICKMAY put it, where did the architect come in? In these remarks he would not be understood to suggest that an architect was not both desirable and necessary in all building works, for architects must always hold a very important place in the economy of building; but (especially in large works) so also must the Surveyor (how otherwise could a fair value of the works be arrived at?), and it would be generally admitted that the employment of competent Surveyors had materially lessened litigation in building contracts. In *Kimberley* v. *Dick*, if the quantities had been properly taken out in the first instance, could any one suppose that the cost to the builder would have been double the amount of his contract? No doubt the drawings were either in pencil or very indefinite.

Mr. S. YOUNG: In that case the quantities were taken out by the architect.

Mr. LANSDOWN: Then they were probably from drawings unfinished and wrong, and not afterwards finished (before signing) to agree with the quantities estimated from. Builders had an objection, and he thought a reasonable one, to priced bills of quantities being deposited with the architect. It was only fair, however, that bills of quantities (not priced) as a schedule of the work required to be done, and explanations of the drawings and specification, should be put into the hands of the architect; and so long as the clerk of works was a respectable and qualified man, there was no objection to his also having the quantities, so as to check the work as it progressed. The only dispute there

could then be was about the prices for the variations in the contract, and that could be provided for by having a sealed copy of the quantities priced out and deposited with the architect, on signing the contract, for reference at the end of the contract. There were objections to the architect and clerk of works having the priced quantities to refer to during the execution of the work. For instance, in one case he had known, there was a very small price put down for stone paving (about *5d.* a foot) and a large price for brick flat paving. The clerk of works suggested to the architect, who (most probably without appreciating its effect) agreed, that he would omit all the brick paving and put in stone paving, which caused a considerable loss to the builder. He hoped the Institution would take this matter into consideration, and appoint a committee on the subject, so as to arrive at an agreement with the Builders' Society as to the best course to be adopted with regard to quantities. This was the only Institution that really represented the quantity-surveyor, and he submitted that this was a subject which it could properly take up and endeavour to settle; and that if properly settled, it would tend to lessen building risks.

Mr. T. Blashill (Fellow) said there was one point of view from which this question had not yet been adequately discussed—that of the building-owner. Those who desired to bring this matter to a practical issue must bear in mind that the building-owner must know as nearly as possible what the amount of his outlay should be. He did not believe that quantities would ever be allowed to be made part of the contract. That was the practice in some countries, but English building-owners were careful to ascertain the exact facts before signing the contract, in order to avoid being let in for any errors or omissions on the part of the quantity-surveyor. He thought that was only a fair

risk for the builder to take or to provide against in a way that he was perfectly competent to do. He should either satisfy himself with respect to the competency of the quantity-surveyor, whom he knew or ought to know, or he should insist on being allowed sufficient time to enable him to have the quantities sufficiently examined before signing the contract. With regard to the clerks of works, he thought that, in the cases instanced by previous speakers, the clerk must have been placed in a position which no clerk of works ought to be allowed to occupy. Clerks of works were sometimes given too much power, and he had himself known of cases of very large buildings carried out, the architects visiting them just once or twice during the course of erection; and, of course, where that was done it was obvious that the matter was, practically, left entirely in the hands of the clerk of works. He maintained that it was wrong to leave to the clerk of works anything that should be done by the architect himself.

He did not think that architects, as a rule, took out their own quantities. He himself had never done so except in one case, and that was at the special request of his client; so there was no question of secrecy in that instance.

As to the Institute contract, he had endeavoured to adopt it, but in a case where he had done so, it was objected to by the solicitor, who pointed out very clearly that there was something in it which required considerable modification, as it did not effectually provide for things which were intended to be provided for.

Mr. Collins: Which solicitor, the building-owner's solicitor or the builder's?

Mr. Blashill: The building-owner's solicitor.

There was one other point to which he would like to

refer—the suggestion thrown out, rather, he thought, as a stray shot, at the end of the Paper. He agreed that any one of experience was entitled to advise and to recommend an architect, as any one of experience was entitled to advise and to recommend any other professional adviser; but, if it should ever become the common practice for quantity-surveyors to suggest architects, it was obvious what would happen. Of course, if the choice were made by a gentleman like Mr. Rickman, in whose hands such a thing might be left with perfect safety, all would be well; but the result of it, as a general rule, would be that the architect would have to pay in some shape or other the person who provided him with that kind of employment, and this would lead to a series of evils which, in the presence of practical gentlemen, it was not necessary to enlarge upon.

Mr. C. G. Maylard (Fellow) strongly supported the proposal of Mr. Lansdown for the appointment of a committee, for the purpose of settling the question of quantities. He hoped that something of the kind would be done, in order to put the position of the quantity-surveyor on some clearer basis than at present. He deprecated strongly the practice of the architect acting as his own quantity-surveyor. By so doing the architect took upon himself responsibilities which he had no right to assume. He knew of a case where the quantities were prepared for a £13,000 job in the neighbourhood of London by an architect who died recently. A well-known firm of builders tendered on the quantities, which had been prepared in the architect's office by a clerk of works who had been brought in as the surveyor. When the building got up to about the second-floor level, the builders said, "We have used up all our bricks: we have got the total number of rods provided in the quantities, but we have now to go up to the third floor and to put up all the chimney-stacks." The matter

came eventually into the hands of an eminent surveyor to measure up the work, and the bills were put into his (Mr. Maylard's) hands, to find out where the architect's clerk had gone wrong. It turned out that there were deficient 80 rods of brickwork, the whole of the joists for the ground floor, and the whole of the trusses to the roof. The matter went to arbitration before Mr. Charles Stephenson, and the measured bills were so different from the quantities that £5,000 extra was added to the contract, and instead of being £13,000 it came to £18,000. That was a case in which the architect, who was undoubtedly competent to take out the quantities himself, had delegated the work to an ordinary clerk in his office with the result he had described, and he had to go before a committee of his employers, tell them the position of affairs, and ask them to pardon him. Fortunately, they did so and paid the extra money.

He himself, not long ago, saw a bill of quantities prepared in a country office. A £30,000 job was supposed to be adequately covered by a 10-page bill; and that bill was lithographed, not by a stationer, but in the architect's own office, and a charge was made for lithographing, with an additional 2½ per cent. for quantities. He thought that if the Institution appointed a committee to inquire into the whole subject of quantity-surveyors and their position—a committee not antagonistic to the architects, but to work with them—it would be doing good service.

There was one other point upon which he would like to say a word. He presumed that it was not the older but the younger members of the profession who took out their own quantities, and he believed that wrong advice had been given to them by another Society in encouraging them to do so. It was urged that it was good practice for them to take out their own quantities, but he ventured to think it had been proved by the discussion that evening that the quantities

were a vital part of the construction of a building, and should not be taken out except by specially-trained Surveyors.

Mr. Turner asked to be allowed to supply an omission. There were two risks which he had not mentioned, and which had not been touched upon. One was the risk which he thought every builder ran when there was a contract which provided that extras should be ordered in writing by the architect or employer. Speaking from his own observation of such matters, he believed that, in ninety-nine cases out of a hundred, the architect ignored that stipulation, frequently working great harm to the builders. The other risk was that arising from the change of an architect, under special powers, towards the close, or even at the close of the contract, when the newly-appointed architect came in and required works to be pulled down and altered and upset which had been passed by the earlier architect in the progress of the works. The architect coming in last had the power to give the final certificate, and sometimes (he hoped very seldom) used that power in a way very much to increase the builder's risk.

Mr. Crickmay pointed out that the risk referred to by Mr. Turner would be rather checked by the arbitration clause; the builder would have power to appeal to the arbitrator, and put the matter right.

Mr. T. M. Rickman, in reply, expressed his thanks for the kind terms in which Members had referred to his Paper, though some rather strong language had been used as to some of the questions alluded to by him. First, with reference to the question which Mr. Crickmay had raised as to the position of the architect if the building-surveyor's views were to be carried out. He might at once say that he looked upon the business of the measuring-surveyor as a branch of architecture, and he contended that the architect

had a *raison d'être* in his professional position specially his own. The professional architect could take this where a salaried officer could not exercise it. His business was to see that for all expenditure a reasonably corresponding result was obtained. His best means of effecting this object were by taking care that the designs were properly prepared and his drawings sufficiently perfect, when a large proportion of the difficulties which had been discussed would be avoided. If the drawings were thoroughly well considered, and the walls were not too thick in one place and not too thin in another, and if no variations were necessary in order to carry out the work, then the client would get the full value of the amount which had been expended. But if the architect, in the course of the proceedings, found that he should have made one wall thinner and another thicker, then he would find that the expense of ascertaining the change would increase out of proportion to the net increase in cost.

He did not think that the Institution at the present time was in a position to appoint a committee on the subject of the position of measuring-surveyors. That position changed from year to year: it certainly changed from ten years to ten years. He thought that, from the list of different positions which the measuring-surveyor took, given in his Paper, it might be fairly concluded that there were as many professional strata. Some of the individuals might improve, some of them would degenerate. He believed that there were measuring-surveyors who started with very little knowledge, and who gained information and reputation as they went on. There were others who starting with good position and much information, obtained in a good office, got into the hands of such a class of builders and of clients, from whom they took their tone of mind and character, and lost their position, and brought disgrace on the profession. At the present time the building trade, as had been stated, was going through a condition of great diffi-

culty. He referred to the business of erecting buildings, of finding capital for buildings, and of bringing the financial interest and the building interest together, so that the vast sums which were now necessary might be suitably expended on new buildings. That course of proceedings was bringing forward a class of men accustomed to financial arrangement; and this was one of his objects in arranging his Paper, and one which he was afraid had rather been lost sight of in the discussion.

Perhaps it was hardly possible to have kept the discussion to this point, as there were many questions which Members could more easily discuss, and there were many instances which could be quoted applicable to such points; but he wanted to draw the attention of those who were engaged in building, whether as architects or Surveyors, or as men investing capital in edifices, to this: that there were many courses of proceeding which were open to them beyond the mere dealing with an absolute contract, and that there were the various modes, which he had pointed out, of carrying out the work, by artificers belonging to the estate, with the estate materials, by having the work done by day-work prices, or at measured prices, or at a contract, or, finally, at percentage upon the cost; and his impression was that the more they had to do with gentlemen who were well aquainted with this subject, the less they would find that the hard-and-fast contract, in the case of large works, was recognised as a thing which could be carried through. The largest employers of building labour were, he believed, gradually coming to see that they might make an agreement in principle as to the cost of work, but that if they introduced alterations into it when they had already made representations as to its extent, by those representations they must stand. Before the account was absolutely finished it must be found out what differences there had been in the execution of the works, and in the consequent value of them. As employers came to understand this, they would

see that the builder was a man who, if he did his work well, was entitled to a fair remuneration, and that course of proceedings would be best which should enlist both owner and builder in a joint interest in having the building executed well and rapidly.

He hoped that those who were now rising in the profession would have, when they came to maturity, the opportunity of dealing on a large scale with building works; and he trusted that the morality of the professional building institutions would become better as time went on, and that at some day they would be able to discuss such a subject as that which he had brought before them, not by abusing one branch of the profession or another branch, but by considering how most carefully and effectively—expecting all men to act fairly towards one another—such different relations might be properly carried out.

As to the word "idiosyncrasy," Johnson gave two quotations to illustrate its meaning. The meaning he gave of it was this: "Idiosyncrasy is a peculiar temper or disposition not common to another." The illustrations he gave of that might perhaps be useful in a public controversy that had lately been going on between some newspapers and the Royal Institute of British Architects. One was the following, from a book called "Vulgar Errors":—"Whether quails, from any idiosyncrasy or peculiarity of constitution, do innocuously feed upon hellebore or rather sometimes but medicinally use the same." The other quotation was: "The understanding also hath its idiosyncrasies as well as other faculties."

Several observations had been made as to what he had meant by his concluding remark. The sense of the passage, he maintained, was that the subject was not one which he intended to or was bound to discuss; but it would have been impossible for him to give, as he intended, not merely

a dissertation upon the mode in which contracts were now made, but also to give a description of what at the present moment the position of the Surveyor's profession was, without referring to the fact that there were Surveyors who were taking a stand, and who, from the position they had obtained, amongst those who best understood public and private interests, were consulted as to the selection of architects, and that there were sometimes public bodies to be found who would trust a Surveyor when they would not trust an architect. No secret slur was intended by the paragraph.

Reference had been made to the form of contract put forward by the Royal Institute of British Architects. He would remind Members that the form now put forward was not a form of contract, but simply of "heads of agreement," and in each case, before a contract was made, proper manipulation of those heads of agreement was necessary. He suspected that the use of these "heads of agreement," without modification to suit the circumstances of the case, was a fruitful source of litigation and arbitration at the present time.

He wished to make his Paper analytical, hence its scope did not include the reporting of cases, and he had wished to point out that, in dealing with risks, it was the object of contracts to eliminate risks by duly recognising and apportioning them.

In considering who was actually responsible for quantities, he thought that the responsibility depended upon the position of the Surveyor as defined by his authority, and by the mode and extent of payment which he received. He thought that in the discussion hardly sufficient consideration had been given to the fact that quantities put forward by an architect as agent for the employer, or by a Surveyor employed by the architect or by the employer, were, in fact,

representations made on behalf of the employer, and so he concluded they should form part of the contract whether the works were public or private.

He could not agree with Professor KERR in objecting to the name of an arbitrator being inserted in the contract, believing that the existence of a known name in the contract as arbitrator, in case of dispute, was often the means of avoiding arbitration.

Some confusion, he thought, had occurred by not clearly distinguishing between sums allowed by a contractor in making an estimate and sums provisional in the contract, and he would point out that the execution of works under the latter head was not accomplished by the builder by supplying the articles, but by paying for them.

THE PRESIDENT, considering the lateness of the hour, would not occupy the Meeting by summing up the discussion further than by saying that it fully confirmed his experience, which was that if a man meant to have his work well done he must be prepared to pay fairly for it. He could not help expressing his extreme gratification, as an old Member of the Institution, that such a thoughtful and weighty Paper, giving rise to so animated a discussion, should so soon follow the equally important Paper and well-sustained discussion on a totally different subject which preceded it. That illustrated very forcibly what he thought one great excellence of this Institution, viz., its comprehensiveness and many-sidedness.

The Meeting then adjourned.

Paper 119
No. 206

"AGRIMENSORES."

By REGINALD WOOLLEY (Fellow).

Read at the Ordinary General Meeting of The Surveyors' Institution, *February 25th*, 1884.

THE PRESIDENT (MR. T. SMITH WOOLLEY) IN THE CHAIR.

The subject of the following Paper, though naturally of interest to those Surveyors who value the antiquity and high standing of their profession, is, unfortunately, obscure. The study of it compels research, not only into the Roman works on surveying and kindred subjects, which are, with some exceptions, fragmentary and debased in style, but also into the more modern writings of foreigners, chiefly Germans, who have expounded the Roman authors. So far as appears, no one has yet collected into a separate treatise in English what may be learnt concerning our Roman predecessors in the Surveyors' profession, though there are occasional references to different branches of the subject, notably by certain members of the Society of Antiquaries. This may, perhaps, serve as an excuse both for my Paper, if any one should think antiquarian matters unsuitable in so thoroughly practical an Institution as ours, and also for myself. The task could have been more satisfactorily performed by some one better acquainted with the languages in which most of the works on the "Agrimensores" are written. It is not pretended that the subject is exhausted in this Paper, although as much has been done as my opportunities allowed towards collecting

materials. There may be much already known which has escaped my inquiries; and, moreover, it is more than probable that scholars and antiquarians will hereafter make further discoveries from manuscripts and other sources. In addition to this, the limits of a Sessional Paper preclude the possibility of going deeply into the various questions which the subject presents, even if one were competent to follow in the steps of the great German scholars.

Those Fellows of the Institution who took part in its earliest proceedings, will remember that in the second Paper read before them—brought to my knowledge by the "Transactions"—the late Mr. Edmund James Smith made an interesting reference to the Agrimensores. A subject introduced by one so venerated and highly esteemed, needs, after all, no apology for its re-appearance before you.

The "Agrimensores," or "Land-measurers," were the Roman Surveyors, and were known by this name during the time of their greatest influence and prosperity, namely, under the Emperors, or from the beginning of the Christian era. The name continued in use until, with the decay of the Empire, the profession declined in importance, and finally disappeared under the northern conquerors of Rome, who neither understood nor upheld her ancient customs and institutions. Nevertheless, the use of the technical terms of the Agrimensores is found as late as the year of our Lord 1049, in a diploma of Pope Leo IX., also in other writings of the last half of the 10th century, and the first half of the 11th, in such a manner as to show that the questions dealt with by the profession were still of some importance.

* Niebuhr, Hist. Rome, tr. Hare & Thirlwall, vol. ii. app. ii. p. 640.

Perhaps it is therefore fair to assume that Agrimensores in practice were even then occasionally to be met with. In fact, we may be tolerably certain that, of the old customs of Rome, those relating to landed property would be among

* The "authorities" are given in full on page 219.

the last to yield to the new influences from Germany—though only in the immediate territory of the city itself so late as this,—and the Agrimensores alone could explain and deal with the mysterious and intricate symbols and methods adopted in the pursuit of their business.

I mention the name "Agrimensores" first, because of the importance of the Surveyors under the Empire; but in the earliest days of the Republic, and probably while Kings still reigned in Rome, the name "Finitores," or "Boundary-setters," was used. Afterwards they were called "Mensores" until this name, under the Emperors, was applied to a class of court officials, when the Surveyors became distinguished from them as "Agrimensores." Other names were "Metatores" ("Measurers") "Decempedatores" ("Users of the ten-foot staff"), and "Gromatici," from the Groma, an instrument used for such purposes as are now fulfilled by the theodolite, and which will be described further on. The two principal names, however, were "Finitores" and "Agrimensores."

Rudorff, Gram. Inst., p. 321, note 240.

The Finitor may be found, so to speak, in embryo, in the man who superintended the marking out of the Pomœrium of the city of Rome, one of the many acts attributed to the Romulus of tradition. This man, whether an augur or a layman, was instructed in geometry by Etruscan priests, from whom the Romans received their early notions of that science. The Pomœrium, it will be remembered, was the strip of land left unoccupied on the inner side of a town wall, or, according to Mommsen, the enclosure itself, within which the auspices were taken in matters concerning the city. It was marked out by drawing a single furrow with a plough, so as to enclose a piece of land, roughly of the same size and shape as the intended town, and by afterwards erecting stone pillars on the small bank which the ridge formed. It implies, at any rate, a slight knowledge of

Grom. Vet., ed. Lachman, p. 27 l. 13.

land-measuring in the man who was responsible for making it the required size and shape.

Having mentioned the names by which the Profession was known from its earliest to its latest date, I will now briefly sketch the nature of the work which occupied the Roman Surveyors.

Niebuhr, Hist. Rome, vol. ii. p. 155.

The lands of the city were divided among the freemen at an extremely remote period. It is possible that the boundaries may have been set out by an Augur, but it must have been an Augur with professional skill as a Surveyor or Finitor. Before 500, B.C., a sort of doomsday-book of all landed estates was made, for which, presumably, the services of Finitores were brought into requisition. This register was constantly under revision by direction of the Censors, as the status of each citizen in the army and the commonwealth was decided according to the value of his property. When Rome began to conquer and occupy the land of other Italian states the Finitores became recognised as a distinct profession, and the duties of the Augur in connection with portioning out the lands were then, if not previously, confined to religious solemnities. The Finitores were required to measure and set out the lands which it was intended to assign to private owners; and, though the work seems to have been done with the least possible expenditure of geometrical skill, the profession was in high repute. It could only be undertaken by free Roman citizens, and payment was made in the form of a gift, no previous bargain being permissible. That but little scientific care in their calculations was usual is, according to NIEBUHR, indicated by the method adopted. The land to be assigned was divided by balks into what should have been equal-sized square or oblong plots. Certain prescribed balks were to be left wider than the others, but no attempt was made by the Finitores to equalise the plots in consequence of this loss of

Niebuhr, Hist. Rome, vol. ii. pp. 3 & 395.

Smith, Dict. Ant., p. 71.

Niebuhr, Hist. Rome, v. ii. app., p. 625.

land. It is only fair to say, however, that other German critics do not agree with NIEBUHR in his inference from the passage on which he founds his opinion. At any rate, in later times, the law under which a colony was founded decided whether the balks should be taken from land available for individual estates, or be allowed for from the whole territory of the community. In the former case, although some plots were under the normal size, fewer men received property in them, so that each one should have his full share of land.

Coote, Archæologia, v. xl i. No.viii. p.129.

Rudorff, Grom. Inst., p. 401.

From the existence of boundaries, disputes about them, it may almost be said, necessarily arose, and the Finitores acted as arbitrators in such disputes, so far as they related to technical matters.

Smith, Dict. Ant. (Agrim.), p. 71.

With the increase of the Roman dominions increased also the importance of the Surveyor's art. Here should be mentioned briefly the nature of the Roman colonies, differing as it did so markedly from that of the colonies of other nations. In the times of the Republic it was part of the essential policy of Rome to strengthen her hold upon conquered states by sending some of her own citizens, with great solemnities, and under a special Act of the People, to reproduce there, as inhabitants, her own laws and customs, and to keep up close connection with herself. Under the Empire the colonies were founded for a purpose exactly the reverse, namely, that the provinces, or rather the army, might keep the city in subjection. The Emperor's decree was sufficient for founding them, and the Government was military instead of civil until the decree was carried out. But under both systems the colonies existed for the furtherance of the ruling power of Rome, and acted as the protection against both internal and foreign foes. It is necessary to bear in mind the great importance of the colonies, because in founding them the services of the Agrimensores were

Rudorff, Grom. Inst., pp. 323-334.

indispensable. The surveys on these occasions formed indeed, the principal part of their work in the early times of the Empire.

Cantor, Rom. Agr., p. 83.

Julius Cæsar made preparations for a survey and census of the whole Roman world. The work was carried out under Augustus, whose lieutenant Agrippa is credited with the management of collecting and putting the parts together.

Grom. Vet., p. 239.

A Mensor named Balbus was supposed to have been engaged upon the survey and the maps, although it seems, from a manuscript in the Vatican, that four Alexandrine Greeks were chiefly employed in the matter. One theory (that of Ritschl) is that the eastern part of the empire was completed between B.C. 37 and 31, the west and north in the following six years, and the south between 25 and 20. Another theory is that this survey and census correspond with the "enrolment of all the world," mentioned in the 2nd chapter of St. Luke's Gospel. The Government survey was renewed or revised under several later Emperors.

Cantor, Rom. Agr., p. 200, note 167.

The work of settling disputes as to ancient boundaries by arbitration considerably developed. Agrimensores were called upon not only to act as arbitrators appointed by the judge, or as referees from the parties, but also to get up cases and give evidence; during the decline of the Empire this was the most important part of their work. They were employed in the restoration of lost and illegally-altered landmarks. Again, they surveyed, mapped, and scheduled private estates and the unassigned lands belonging to the Roman people, also the domains of the Emperor.

Rudorff, Grom. Inst., p. 422.

Rudorff, Grom. Inst., 430 et seq.

Rudorff, Grom. Inst., p. 301.

The foregoing is a summary of the work undertaken by the Finitores and Agrimensores while their particular branch of our profession existed, roughly speaking during a period of 1,700 years, from B.C. 700 to A.D. 1000. They compare not unfavourably with the Egyptian Surveyors,

even though the latter are known to date from more than 1,700 years before CHRIST, and produced in later days so great a geometrician as HERON of Alexandria. It should be said, however, that the Romans were indebted to the Egyptians for a higher knowledge of the art of surveying. Stoeber, Rom. Grundst., p. 4.

Among the important results of the increase of work under the Empire, and the necessity for competent and well-instructed professional advisers, two may be mentioned. First, the growth of a peculiar literature on gromatics, or surveying; secondly, the foundation of schools specially for the training of the young Agrimensores. Two branches of knowledge were required by them, and therefore supplied subjects for the literature, and were taught in the schools. One branch was technical, that is, a knowledge of geometry, of the method of surveying and boundary-marking, and of the instruments in use. The other was administrative, including an acquaintance with the land laws, with customs relating to boundaries. and with the various symbols used on landmarks, maps, and terriers. The first branch was necessary for the Surveyor, the second for the Arbitrator. Niebuhr, Hist. Rome, v. ii. app. ii. p. 634.

With reference to the gromatic literature, the only classical author in the collections of these writings which have come down to us, is SEXTUS JULIUS FRONTINUS, who lived from A.D. 41 to 104. He was an excellent man of business, both as an Agrimensor and an Engineer. He also occupied a high position in the State, being three times Consul, and for four years in our country as Governor of Britain. His gromatic works, so far as we possess them, treat of the nature of landed property, of boundaries, and of the points of dispute connected with both. Teuffell, Hist. Rom. Lit., v. ii. p. 147.

There are also writings extant by SICULUS FLACCUS, before A.D. 96, on tenure of land in Italy, and by HYGINUS in the time of TRAJAN, on the same subjects as FRONTINUS. BALBUS, too, wrote under TRAJAN on measurements and fractions; also, Rudorff, Grom. Inst., p. 231.

Mommsen, De Lib. Col., pp. 147, 148, &c.

according to MOMMSEN, he is the author of the "Liber Coloniarum," or "Register of the Colonies." MOMMSEN considers that the later compilers of gromatic schoolbooks became confused by this register, concluding that it was part of the great survey of AUGUSTUS. They, therefore, as he thinks, erroneously supposed that there had been two gromatic authors named BALBUS, and corrupted the title of the register to suit this theory. Among numerous other fragments extending to the sixth century, some with and some without known authors, may be mentioned (1) a commentary on FRONTINUS, by AGGENUS URBICUS, an apparently somewhat ignorant Christian schoolmaster, probably dating from 400; (2) an instruction on measuring across a river, and other matters, by MARCUS JUNIUS NIPSUS, whose style reveals a melancholy want of education, foreshadowing the approach of the Dark Ages; and (3) the geometrical works ascribed to BOETHIUS, in the first half of the sixth century, about the authenticity of which, however, there is a great controversy undecided.

Lachmann, Die dom Boeth, p. 81.

During the decline of the Empire, one point in the evidence of the decline of letters also is seen in the treatment of the voluminous works on Surveying. Extracts were made without any attempt at continuity of subject, or at condensing what was not inserted in full; and such extracts were put forth to be used as manuals of instruction in the schools, having to be made intelligible by the oral explanations of the tutors. It is partly the result of this treatment that the literature has come down to us in a very imperfect and confused state, though the gross ignorance and inaccuracy of the copyists is also responsible.

Niebuhr, Hist. Rom., v. ii. app. ii. p. 636.

Since the revival of letters, the gromatic writings have received very little critical attention until NIEBUHR's mention of them in the great History of Rome. After that, KARL

Lachmann, by long and careful labour, reduced the fragments to some order, and as far as he could restored the text. As examples of the difficulties which had to be overcome, I may mention that pages belonging to the works of one author had been interpolated in the works of others in many cases; again, an ignorant copyist, or some one dictating to him, had substituted for the name of the instrument "Sciotherum," what was doubtless more intelligible to himself, the words "si iterum." Lachmann published the results of his researches in 1848, and four years later appeared critical essays by himself, Blume, Mommsen, and Rudorff, on the text and subjects of the gromatic authors. The manuscripts are often seriously mutilated, and the style of the Latin is, in many instances, most corrupt; hence some passages were not intelligible even to these scholarly Germans, notwithstanding their laborious and persevering efforts.

Blume, Handsch. Agr., pp. 26-27.

Grom. Vet., p. 189.

The principal manuscript authority is the collection possessed in the sixteenth century by Johann Arcerius, and called after him, the "Arcerian Manuscript." It dates from the end of the sixth or beginning of the seventh century; and part of it is illustrated by diagrams. The learned Gerbertus, who was afterwards Pope Sylvester II., while Abbot of Bobbio, in North Italy, in the years 981 to 983, used this manuscript. After the revival of letters it was first discovered in the monastery at Bobbio, in 1493, by Georgius Galbiatus, an amanuensis. The manuscript was shortly after removed to Rome. Raphael Maphaeus Volaterranus gives a list of the works it contained in a book published in 1506.

Niebuhr, Hist. Rom., v. ii. app. ii. p. 638.

Cantor, Rom. Agr., pp. 167 & 168.

Blume, Handch. Agr., p. 11, &c., &c.

It passed through many hands, and was for a time in the possession of Erasmus. It came into the family of Arcerius in the middle of the 16th century. Finally it reached the Library at Wolfenbüttel in Brunswick in 1663,

and there it has remained ever since, with the exception of the seven years from 1807 to 1814, when it was removed to Paris by Napoleon Bonaparte.

Another manuscript authority is known as the "Gudian" from having been for a time in the possession of Marquard Gudius. On his death, in 1689, it passed to the Wolfenbüttel Library, and has since followed the fortunes of the Arcerian manuscript. Adrian Turnebus owned it, and published a printed edition of the works contained in it in 1554. One copy of this edition is in the British Museum. The manuscript in question dates from the 9th or 10th century, and was discovered at the Monastery of St. Omer, in France.

Of the same age is the Palatine manuscript, now in the Vatican, where it was taken in 1623 from Heidelberg. There are many other fragmentary gromatic manuscripts. Rigaltius published an edition with notes in 1614; Goesius another in 1674. The latter was used for reference until Lachmann's appeared.

I append the interesting passage from Nipsus (see Appendix, p. 220) on measuring over a river, which Mr. Roby has kindly criticised and translated. In addition to its technical interest, it illustrates the style of the later gromatic authors.

Reverting to the subject of the schools of geometry, the teachers were empowered to charge a fee for their instructions, but do not appear to have held any high social or political position. In this they are on a par with the teachers of law, showing how low an estimate the Romans formed of the value of elementary instruction.

Rudorff, Ueber die Feld. Zeitsch. Gesch. Rechtsu. v. x. p. 412.

The men of the profession, on the other hand, were often distinguished among their fellow-countrymen, and those who rose above the average received special titles, such as "Auctor," "Perfectissimus," and, coupled with an adjectival form of the reigning Emperor's name, Togatus.

Rudorff, Grom. Inst., pp. 321, 322.

It should be remembered that, at the period now spoken of, those Agrimensores alone who had received the proper education obtained any standing by means of their profession. They were required to pass an examination, and were officially recognised and employed by the Government. Compare with this the importance which our Institution's examinations will attain in the future.

The Surveyors of the Roman Empire were bound together, though perhaps not in a visible corporation, so as to influence the position of the profession; as it is one of the objects of the Surveyors' Institution to do in the present day. Sometimes, so to speak, unauthorised persons, such even as slaves and common soldiers, were employed in surveying; but this was probably only in a manner corresponding to our "book-keepers," "chain-drivers," and "leaders." Cantor, Rom. Agr., p. 76. Rudorff, Zeitsch. Gesch. Rechtsu., v. x. p. 412.

It is stated in a regulation by the Emperor Theodosius (A.D. 408 to 450) that the pupils at the schools should receive the title "Clarissimus." This is, on the face of it, improbable, inasmuch as such high officials as governors of provinces were honoured by receiving that very title. Further, the greatest modern critics consider that part of the regulation which is the authority for the statement to be either an intentional falsification by some interested person, or a spurious addition to the text. In the same passage it is decreed that any one pronouncing judgment in a technical case without having passed the required examination, should be sentenced to death! A rather strong proof of the corruption of the text in barbarous later times. Grom. Vet., p. 273. Rudorff, Grom. Inst., p. 322.

The influence of the duly-educated and officially-recognised Surveyors and their judicial powers as Arbitrators were continually on the increase. However, not until Anno Domini 344, in the reign of Constans, did they obtain the long-desired immunity from civil burdens. By these are meant service in the army or in public offices; Rudorff, Zeitsch. Gesch. Rechtsu., v. x. p. 412.

in the best days of the Republic they had been esteemed honours.

With regard to remuneration.—Under the early Emperors it became possible, and even usual, for Agrimensores to enter into contracts for carrying out surveys, the amount of payment being prefixed; but the older system of payment in the form of free gifts from employers was still maintained in many cases. In the fifth century of our era, the beforementioned regulation of the Emperors Theodosius and Valentinian, as quoted in the gromatic writings, gave an Agrimensor who restored a boundary-mark between three adjacent proprietors, an aureus from each, in addition to his expenses. If he set right a balk between two estates, he was to receive an aureus for each twelfth part of the properties dealt with. The current value of that coin was 18*s.* 6*d.* of our money. Comparing the high amount of this pay with that of other Government officials of judicial rank, we are led to apply the same remarks to this section of the act of Theodosius as to that referred to above. However, the very falsification seems to imply that a tariff of fees answering to our "Ryde's Scale" was recognised either by custom or law.

Do. do. do.

Smith, Dict. Ant., p. 1241.

The manner in which the Roman Surveyors conducted their business may now be described, so far as it has been brought to light. There are two great divisions of work, namely, surveying and arbitration.

Here it will be noticed that there is no mention of estate management, which forms so important a branch of the work devolving upon members of the profession in the present day. The fact is, that, in the earliest times, the land was, in principle, held in equal portions by the Roman citizens, no man owning the absolute fee simple of more than two jugers. This was considered enough to support him. The juger is nearly equal to two roods and twenty perches, so that each

Niebuhr, Hist. Rom., v. ii. p. 155.

Smith, Dict. Ant. 1231.

allotment was about an acre and a quarter. In addition to this amount of absolute property, men had rights of pasture on common lands; and might have a peculiar sort of half-property called, technically, "possession."

The Licinian law, in B.C. 365, put the limit of possession at 500 jugers for a single Roman citizen. Both the first principle as to property and the Licinian law as to possession were soon broken through, owing to the enforcement of the stern law of debt, and, no doubt, to the natural love of land-owning which exists in mankind. The accumulation of wealth in the hands of capitalists must have led to large investments in land. But, though the rich men among the later Romans usually owned vast estates, sometimes at great distances from their places of abode, in many cases they exercised personally a general control, employing bailiffs for the details of the work. Even where farms were let to tenants, which was always the case with lands of the colleges of priests, and frequently with those belonging to private men, it does not appear that there were any professional stewards of high standing to act on behalf of the landowner and in the mutual interests of both parties. It should be noted, however, that, from the first, the Romans took the greatest interest in farming matters. Agriculture was the honourable way of working for profit. Trade and mechanics were considered derogatory.

Rudorff, Grom. Inst., p. 312.

Cf. Gisbone's Essays on Agriculture, No. 3, p.149, &c.

Cf. Gisbone's Essays on Agriculture, No. 3, p. 299.

Stoeber, Rom. Grundst., p. 18.

To discuss Surveying first as the most ancient branch of the work done by the Agrimensores and their predecessors, the Finitores.

Of the instruments they used, the principal one was the "Groma," which the rustics pronounced "Gruma." It was employed in setting out lands of new colonies and in making surveys. Its use and, probably, its name were received by the Romans from the Etruscans. The groma consisted of an iron pedestal with an equal-armed cross fitting horizontally

Grom. Vet., p. 32, l. 18.

Rudorff, Grom. Inst., pp. 333—337.

on the top. From having an iron pedestal, the whole instrument was sometimes called "Ferramentum," and from the cross, "Stella." On the arms of the cross, which intersected one another at right angles, were marked the four quarters of the heavens. The arms were provided with small points placed vertically on the top, for the purpose of taking sights in setting out lines. From the end of each arm hung a plumb-line, by means of which the cross was made level, for, the lines being all of one length, the cross was moved until, when any two of the plumbs were brought into the direct line of sight from the eye, only one was visible. The pedestal was probably a tripod, and the centre of the top part was brought, if necessary, exactly over a required spot by means of a fifth plumb-line. Comparing the groma with the theodolite, the tripod and centre plumb-line are similar in both; the arms of the cross and small sights of the former answer to the telescope of the latter, and the four plumb-lines to the level bubbles.

Stoeber, Rom. Grundst., p. 73 to 76.

Gom. Vet., p. 33, l. 1.

The "Sciotherum," also called "Gnomon," was either a staff or a triangular piece of metal for throwing a shadow from the sunlight; by means of it the meridian line was ascertained. It was introduced into Italy from Greece in the shape of a sun-dial brought to Rome in B.C. 293. Before this time, apparently, the meridian had been guessed at from the sun at mid-day. In using the instrument a circle was described on the ground and the sciotherum placed at the centre. In the morning, as the end of the shadow thrown by the sciotherum from the sun, growing shorter touched the circumference of the circle, a mark was made thereon at the exact point. The like was done in the afternoon as the shadow lengthened. Through the two marks thus obtained a line was drawn and another line perpendicular to it gave the meridian. The importance of this line will be seen in the description of the method of laying out a new settlement.

Cantor, Rom. Agr., p. 67—72.

The "Chorobates" was used for levelling. It consisted of a piece of wood twenty feet long, parallelopiped in form. Stoeber, Rom. Grundst., p. 73.

At each end was fixed a perpendicular staff with a plumb-line attached to the top, and having a groove down the middle. The upper surface of the 20-foot piece was hollowed out, so that water might be used for ascertaining the level, instead of the plumb-lines, in windy weather. When in use, one end of the chorobates was placed on the ground, and the other, pointing down the incline in the required direction, was lifted up until the plumb-lines hung in the grooves. The distance from the latter end to the ground was then measured, and the fall in twenty feet so obtained.

The "Decempeda," also called "Pertica," was a 10-foot measuring-pole; or rather, 9 feet $8\frac{1}{2}$ inches of our measure. Stoeber, Rom. Grundst., p. 72. The Roman standard measure of length (the *pes monetalis* on the Capitol) was probably about 11·649 English inches. Smith, Dict. Ant., p. 1229. In measuring down hill the decempeda had a plumb-line attached to one end, by means of which the purpose of our step chaining was attained.

"Metæ" were poles with iron points, used in setting out the lines of surveys. Stoeber, Rom. Grundst., p. 72.

"Ceræ" were tables of bark, thinly spread over with wax, written on with an iron pencil ("stilus"), which was blunt at one end for the purpose of erasing mistakes. Stili are now found in such great numbers on the sites of Roman settlements that they will be familiar to all. The ceræ answered to our survey-books. Do. do. do., p. 78.

The maps were engraved on bronze or copper. Those of a new settlement were kept for public inspection in the colonial town; a copy on linen being deposited in the imperial archives at Rome. They were not drawn to scale; in fact, the art of drawing to scale was not discovered until the 16th century. They contained, however, details of the Do. do. do.

distances between the various boundary-marks. Until a territory had been measured and mapped, it was, in the eye of Roman law, still barbarous.

Agrimensores were employed both in measuring and marking out the territories which the Government had decided to assign to private owners, and also in surveying the public and private lands for taxation and other purposes.

In speaking of public and private land, it is necessary to understand, to a certain extent, the nature of the different tenures by which landed estates were held under the Roman system. The subject is extremely intricate and interesting, but it must here be dealt with only so far as it concerns the business of the Agrimensores in making surveys.

Smith, Dict. Ant., p. 37.

Some writers class the different tenures in two principal divisions. In the first was the land held by, or on behalf of, the gods. It consisted of the sites of temples and the estates of the priestly colleges and the vestal virgins, which were dedicated to the celestial deities by an act of the Senate. It also included the family burial-grounds dedicated to the household gods by private individuals. The second division was either public or private land. When the Romans had conquered a country the arable land, or some of it, was usually assigned in fee-simple to citizens or colonists. Such land was marked by boundary-stones and balks, and became "private" property. The remainder was occupied by citizens or colonists, who had what was called the "possession," for which they paid an acknowledgment, but the actual property or fee-simple was vested in the State. The Government might resume the possession at will, and had power of sale. This was the land called "public." There are, of course, numerous subdivisions of the subject of tenure, but enough has been said for the present purpose.

Rudorff, Rom. Inst., p. 370.

The derivation of the word "assignation," as a grant of

land by the Government to the citizens is called, is, according to some authorities, from "signa," the "standards," which in camps were employed to mark the different portions of ground to be occupied by the various troops. An assignment was made in the shape of a camp, and was, in fact, generally the reward of the veterans for faithful service.

Do. do. do., p. 358.

The Agrimensores were employed in the assignations referred to, and their surveys were carried out in the following manner. To suppose a case and employ a diagram will, perhaps, be the best mode of description. The one selected is founded on a diagram in Goesius' edition of the gromatic authors, and on the illustrations of the Arcerian manuscript (marked B).

The first thing to be done was to ascertain the total quantity of land to be dealt with. The whole of the conquered territory is included within the irregular line A A. The Agrimensor went round and set stones in all the angles of this line. He then set out a straight line across the territory, just so far from one end as not to be broken by the irregular boundary. Next, he ran a line parallel to the last, at a fixed distance from it. The process was continued to the opposite end of the territory. It was then repeated at right angles to the first set of lines. Thus the whole region was cut up into equal squares, except on the outer sides. There the figures would be of irregular shape, inclosed on three sides by the parallel and rectangular lines, but on the fourth by the territorial boundary. The latter were measured by triangulation, and with the quantities of the equal squares, gave the size of the territory. I have, as before stated, appended the instructions by Nipsus, how to act in case a river should interfere with any measurement, a method still in use. The way of reducing hills and valleys to a plane surface has been explained in describing the decempeda. With regard to buildings coming in the way

Stoeber, Rom. Grundst., p. 134, note.

of a line to be measured, and other obstacles having a like effect, FRONTINUS bids the Surveyor ascertain the area as best he may! These are his words: "Sed si in rigore dictando quædam devitanda incurrunt, valles, loca confragosa, arbores quas propter moram aut fructum succidere non oportet, item ædificia, maceriæ, petræ aut montes, et his similia, hæc quacumque ratione optime poterint, mensuram accipere debebunt." (Grom. Vet. ed. Lach., p. 33.) The groma, with its right-angled arms, would make the process easy.

Having arrived at the amount of land in the territory, the next thing to be done was to decide where the new town should be placed; unless, indeed, there happened to be an old one left standing which could be utilised. It was considered desirable to have the town in the centre of the assigned land, but, if circumstances prevented that, the assignation was made without reference to its situation. Such circumstances were, the presence of water, or mountains, or excessive exposure to the attacks of an enemy. On the diagram (Fig. B) the town is already built among the hills, in a place unsuitable for cultivation, and is therefore left outside the assignation. It is marked B. The Surveyor then fixed his groma at C, as nearly as possible in the centre of that part of the territory which was to be assigned.

Rudorff, Grom. Inst., p. 339.

It was considered essential that the assignment should be made with reference to the axis of the earth and the path of the sun from east to west, an idea connected with religious belief. He therefore carefully ascertained with his sciotherum, or by other methods in use for the purpose, the meridian line. The groma was turned so that its arms marked north and south were in line with the meridian. The Surveyor, then facing west, set out with metæ a straight line from the groma to the western boundary of the territory. He then came round to the other

Rudorff, Grom. Inst., 343-347.

side of the instrument, and did the same towards the east. This line formed the middle of a balk 40 feet wide, which was called "Decumanus maximus." A like process was then gone through with the other arms of the groma, pointing north and south. The balk made on the last-named line was 20 feet wide, and was called the "Cardo maximus." These two lines were of the highest importance as the base lines of the survey. They formed great public highways between district and district, and are therefore often confused with the military roads, from which, however, they are quite distinct in reality. The spot over which the groma was fixed was, in a normal case, the central point of the colony, and from thence the Augur took the auspices. In what Hyginus calls the "most beautiful plan," the space around it was the market-place, and was enclosed by the public buildings. From it the decumanus and cardo ran through the town gates to the country beyond the walls, giving the townsmen easy access to their farms, and the country people the simplest way to market or law court.

Do. do. do., p. 350.

Grom. Vet., p. 180.

As the Agrimensor stood at the groma facing west, that half of the land to be assigned lying in front of him was called "Antica" or "Ultra Cardinem," the half behind him "Postica" or "Citra Cardinem." Again, the half on his right hand was "Dextra Decumanum," that on his left "Sinistra Decumanum." By this means the whole was divided into four "regions." The first called "Dextra Decumanum Ultra Cardinem," the second "Dextra Decumanum Citra Cardinem," and so on. The decumanus maximus is marked D D on the diagram, the cardo maximus E E.

Grom. Vet., p. 166.

Now the land had to be cut up into square or rectangular plots called "Centuriæ," containing normally 200 jugers; that is, two jugers each for 100 men, hence the name. This was done by narrower balks, eight feet wide, running

parallel to the great ones, and set out by moving the groma a given distance along the latter. They were called, taken all together, "Linearii," and in Italy "Subruncivi." Individually, each was known as decumanus primus, decumanus secundus, cardo primus, cardo secundus, and so on successively from the main balks. They are shown by numerals on the diagram. Every fifth "limes," or balk, both from the decumanus maximus and the cardo maximus (marked F F), was made twelve feet wide, was used as a road, sometimes public, sometimes simply "occupation," and was called "Quintarius" or "Actuarius." The linearii and quintarii were continued until the assignable land was all included within them.

Stoeber, Rom. Grundst., p. 26, 27.

Rudorff, Grom. Inst., 390-400.

The small pieces of land marked G G could not be brought into the centuries, because of their irregular shape, and were called "Subseciva" ("oddments"). They remained unassigned, unless there was not enough land for the colonists without them, and formed part of the public land. If there were too few colonists in one of the centuries to take up the whole, or if land was unallotted on account of its badness, such pieces, as H on the diagram, were called "Relicta," and belonged to the community. A whole century unassigned was called "Centuria Vacua."

The letters K K show the land covered by the river in flood-time which was considered as allotted to the river, and called "Assignatum Flumini."

The rest of the territory is marked L L, and was known as "extra clusa." Part of this was public land which, as already explained, belonged to the Government or Roman people, and was held as "possession," but not property, by the occupiers. Some of the public land, no doubt, would not be occupied; that is to say, if sterile or marshy. Part of the remaining land might be given up to the community, and consisted of common pastures, meadows, and woods; part

would belong to the temples, or be otherwise "sacred" land.

The Agrimensor marked all the intersecting points of the numerous balks forming the centuries with stones, or by other accepted means, which will be more particularly described in a succeeding paragraph. He then proceeded to cut up the centuries into "heredia," or individual estates, and these were marked out by wooden stakes. The heredia originally contained two jugers, but in later times varied between that number and fifty. Attached to each heredium was a right to a portion of the common pasture, meadow, and forest.

Rudorff, Grom. Inst., p. 355.

Rudorff, Grom. Inst., pp. 362-366.

Rudorff, Grom. Inst., p. 395.

The Agrimensor had, in some cases—that is, unless the colonists agreed among themselves,—to distribute the estates by casting lots. He then marked the posts in accordance with the result.

Rudorff, Grom. Inst., p. 367.

Finally, maps were made in duplicate, with elaborate descriptive schedules, and signed by the "Conditor," or military Commissioner, under whom the Agrimensor had acted. One copy was sent to Rome, and the other was publicly exhibited in the colonial town, in token of the completion of the Emperor's decree. The civil magistrates then took over the authority of the military Commissioner. The final removal of the groma was part of the function on that occasion.

Grom. Vet., p. 202 l. 11.

Rudorff, Grom. Inst., p. 238.

The principle on which the surveys were conducted may be gathered from this description, but it will be understood that the rules of procedure varied considerably at different periods; also that very many circumstances would occur to prevent the Agrimensores from carrying them out in all cases. The gromatic authors give instances of the difficulties met with, and also of the mistakes which some Surveyors made. Of the former, I may mention the case in which the position of a neighbouring territory made it necessary to divert the

Grom. Vet., p. 170 l. 9.

decumanus maximus from the direct line, as in this illustration from the Gudian manuscript (Fig. C). The latter were such matters as not ascertaining the true meridian line. An ignorant Mensor might take the apparent sunrise for the true east, and then ascertaining the real north direction from the sun at mid-day, his decumanus maximus and cardo maximus would not cross one another at right angles, as in this other illustration (Fig. D). The passage in Frontinus to which illustration D refers shows that it was not a real assignation map, but only an example of a plan made to find the total quantity of land in a territory. Perhaps the 6th-century artist is to blame for the absence of right-angles! Hyginus, however, speaks with high contempt of Surveyors who made such mistakes. "Many ignorant men," says he, "have taken the sunrise and sunset in their "reckoning . . . . . with which the Cardo found at the "sixth hour will not fit" (see Grom. Vet. ed Lach., p 170). And in another place (p. 182) "perhaps they knew their "mistake and took no heed."

Rudorff, Grom. Inst., p. 348.

It is interesting to compare the powers and duties of a Valuer in an inclosure of open field lands and commons of our day, with those of an Agrimensor in the foundation of a Roman colony. The Parliamentary Provisional Order, the survey, road-making, and setting out allotments, the security of title to the land given by the award, the maps and award confirmed by the commissioners, and deposited in duplicate both in the parish and at the Land Office, publicly denoting the completion of the business and the termination of the Valuer's powers,—all these come to mind in describing an assignment.

All the states under Rome's dominion were not subjected to the process above described, which was called "Limitation and Centuriation." Some lands were called "Arcifinian." These belonged chiefly to states which had been united to

Rudorff, Grom. Inst., p. 253.

Rome by treaty, and retained simply their ancient irregular boundaries. The area was ascertained, if required, either by making a proper limitation map, which seems a needless expenditure of trouble, or by simply squaring, as in the preliminary proceedings of a limitation, making a map of the outer boundaries only. The latter method was also adopted in the other ordinary surveys made by the Agrimensores. Grom. Vet., p. 5.

"Strigation" and "Scamnation" were other ways of dealing with territories. Long narrow strips of land were the peculiarity of these methods; in strigation they ran from north to south; in scamnation from west to east. They had a decumanus maximus and cardo maximus, in common with centuriation. Grom. Vet., p. 3.

I will now give some account of the boundary-marks. The subject comes in fitly here at the end of the description of the surveying part of the Agrimensores' business, because it also belongs to the other part, arbitration. In fact, it forms practically the whole reason for the existence of the latter branch of work. It is, however, an extremely wide subject, so wide that I must not go very fully into it here.

In connection with boundary-marks, the Agrimensores had, in the first place, to set them up; in the second, to restore them, if altered or lost, both practically, by prescribed methods of surveying, and also judicially by arbitration. Nipsus gives a method to be used where surveying is required, but in his lamentable style of Latin. Grom. Vet., p. 286.

The boundary-marks on arcifinian and limited lands were, in early times, easily distinguished one from the other. Later on the two kinds became mixed, and at last the difference in the very nature of the lands became altogether indiscernible. Rudorff, Zeitsch Gesch Rechtsu, v. x. Ueber de Feldmesser.

Arcifinian boundary-marks were either natural, such as mountains, rivers, and trees; or artificial, such as large stones, pits, and difference of planting. These methods of Rudorff, Zeitsch Gesch Rechtsu, v. x. Ueber die Granz Zeichen.

dividing districts are still to be met with. For instance, on the Yorkshire moors near Whitby there is a large stone, set up on a tumulus, inscribed "Goathland Boundery, determined at York Assizes, 1813." Again, before their recent inclosure, Barrowden and South Luffenham, two Rutland parishes, were divided by "Mereholes" on a wild uncultivated part of their boundary. Agrimensores were not concerned with arcifinian land unless it had to be measured for land-tax. Frontinus classes measured land separately from arcifinian, and calls it "ager mensura conprehensus." If not officially surveyed, the plans belonging to arcifinian states were not recognised in Roman law courts. Owing to the great inconvenience which resulted to communities from this fact, it was thought an advantage on this score at any rate, for such a district to receive a Roman colony. As time went on, therefore, this kind of land was mostly absorbed in the others, and, even under the early Emperors, consisted only of forests still remaining state property, the domains of the Cæsar, and other estates of unusually large size.

Rudorff, Grom. Inst., p. 300. Grom. Vet., p. 4.

Rudorff, Grom. Inst., p. 254.

Rudorff, Grom. Inst., p. 300.

The system of boundary-marks for land under limitation was gradually developed, and became at last exceedingly intricate and abstruse. Claws, beaks, heads, and letters in all manner of forms had proper significations when carved on a mark. Trees of particular kinds, and with particular marks, mounds of curious shapes, tombs, temples, and, above all, stones, the last often brought from a distance to prevent confusion with the stone of the district, all these things, besides others, served their purpose in the wonderful system of the Agrimensores. The signs were only understood by the Agrimensores themselves who had been instructed in the schools on the subject; and even they were compelled to have certain books of reference to their meanings. This

Rudorff, Grom. Inst., pp. 271-277.

Grom. Vet., p. 310.

system, or one of its modifications, was at last practically common to the whole civilised Empire for all lands.

The boundaries being out in the open country had to be marked in a way which would be proof against both the inclemencies of the weather, and the malicious intentions of evil men; especially as the earlier inhabitants were often hostile to the colonies forced upon them, and might be expected to trouble the intruders by tampering with their boundary-marks. The one requisite was provided for by the material chosen; the other by the use of signs hidden in the earth, helped out by the measurements procurable from the maps. The law also stepped in to prevent interference with boundaries. The punishment for that crime, for such it was considered, was no less than death, until, under the Emperors, a heavy fine was substituted. The capital punishment was a result of the idea that such offences were sins against the gods. The idea itself naturally arose from the necessity of inspiring men with fear of committing acts which would be of immense inconvenience to the community.

Rudorff, Grom. Inst., pp. 241—250.

Until the Empire became Christian, the preservation of boundaries was helped by the festivals held every year on the spot, in honour of TERMINUS, the god of boundaries. The custom in England of "beating the bounds" of a parish annually, at Rogation-tide, was a Christian substitute for those convenient pagan rites.

Rudorff, Grom. Inst., p. 238.

Like the centuries which they marked out, the boundary-marks of a centuriation were intended to be wholly unalterable. Whatever might be the extent of a man's estate, whether one century or many, or less than one, the law, in its dealings with taxation, sales, and other matters, regarded each century as a unit, and distinct from others.

Niebuhr, Hist. Rom. v. ii. appendix i., pp. 629 and 630.

The Agrimensor was directed as to material, shape, and other details of the marks to be used, in the law or decree

Coote, Archæologia, vol. xlii., No. viii.

under which he acted. Stone of various kinds was the ordinary material, and the cylindrical form was in use in the Augustan period. The stones were inscribed by the Surveyors with letters, numerals, or signs, or were intentionally left blank, in accordance with the recognised methods, so that what any particular mark was intended to indicate, and also where the next ought to be found, might be obvious to succeeding Agrimensores. The size of the stone depended upon the importance of its position.

Stoeber, Rom. Grundst., p. 55.

The centuries were marked on their outside boundaries—that is, on the balks farthest from the groma. The flat tops of the Augustan stones, being circular, were cut by cross lines into four quarters. One quarter was left blank, and was turned towards the century being marked out. The other three would be inscribed with the name of the balk on which the stone stood. For example, the century next the decumanus maximus and cardo maximus, if on the left side of the former and the hither side of the latter, would be inscribed as in the figure (Fig. E). S. D. I. stands for "Sinistra Decumanum Primum," K. K. I. for "Citra Cardinem Primum." I merely describe the Augustan stone in order to show the principle—not that it was by any means the only way of marking.

Grom. Vet., p. 173.

Coins, knives, pottery, and charcoal were buried in the earth under stones and mounds, so that Agrimensores, by careful examination, might find out whether such had any real signification as boundary-marks. The deposits also helped in the restoration of altered stones. Mr. Coote quotes a fine passage from St. Augustine's "De Civitate Dei," which shows that these signs were thoroughly recognised by all members of society in the fifth century, although the dark ages buried their meaning so completely that it has only recently come to light again. The passage is to the following effect:—"Again, take charcoal. What a

Rudorff, Grom. Inst., p. 275.

De Civ. Dei, Lib. xxi., c. iv.

"marvellous combination of weakness and strength! The "slightest blow breaks it, the gentlest pressure crushes it, "and yet damp cannot destroy it, time cannot prevail over "it. In fact, it is a common practice to lay down charcoal "under a boundary-mark, as evidence against any claimant "who, after a given number of years, should attempt to "maintain that the stone set on end is not a boundary-"mark. What is it which has caused charcoal, buried in "damp earth where wood would rot, to last so long in-"destructible, except fire, which notoriously destroys all "things?"

The mounds were called "Botontini." There exists an example at Lilbourne in Northamptonshire. Grom. Vet., p. 308.

The stone, with a substructure buried in the earth and furnished with the articles mentioned, was called an "Arca finalis." One was discovered during the building of the National Safe Deposit Company's premises, near the Mansion House, and the pottery, which was found in the substructure, is now in the Guildhall Museum. Both arcæ finales and botontini marked points called "Trifinia" or "Quadrifinia," where three or four estates met. J. Whichcord, F.S.A., Transactions, R.I.B.A., 17th Jan., 1876.

The varieties of boundary-marks and their inscriptions are almost infinite, and it would be quite useless here to attempt a detailed description of them. Enough has been done if it be understood that they were of immense importance, and that the profession which was, as it were, in charge of them must have been of high standing and possessed of great technical knowledge.

I now come to the last point to be mentioned in reference to the Agrimensores—namely, the arbitration, about which, however, there is little to say.

It has already been stated that the restoration of the boundary-marks formed the basis of this branch of the work.

Frontinus gives the different points of dispute connected Grom. Vet., p. 9.

with landed property as fifteen in number. They are as follows :—

1. Position of boundary-stones.

2. Direction of "rigores," that is, dividing-lines, between centuries or between territories if running for a great distance in the same direction.

3. Boundary-lines between private estates.

4. The restoration of the proper area of estates if lessened by encroachments, or by other means.

5. The same in centuriated land.

6. Title to private property.

7. Title to "possession" on the public lands.

8. Reclaimed land, and the encroachment of rivers.

9. The rights of communities in common lands.

10. Subseciva.

11. Encroachments on roads and other public places.

12. Questions respecting land adjoining a colony, but not surveyed and assigned.

13. "Sacred" lands.

14. Rights of protection against floods.

15. Maintenance of public roads.

Of these, the Agrimensores were, I believe, chiefly concerned with the first five.

When a question was referred, the parties repaired to the ground in dispute with the arbitrator. Indeed, Rudorff says, the very title is derived from the fact that an arbitrator used to "go to" (arbiter is from "ar" (old form of "ad") and "betere" old word = "ire"; hence "arbiter" meant originally "visitor") the place in dispute, instead of sitting in a building to hear a case. He examined the stones, dug up the hidden signs, and gave his award accordingly. Evidence might be given on oath, but the decision of the boundary-stone, if found, was final.

Rudorff, Grom. Inst., p. 428.

This is all that I can say of the arbitrations, in which,

as before stated, the Agrimensor was sometimes referee, sometimes witness, and sometimes skilled adviser.

I now bring my Paper to a conclusion. Its object has been to give some account of a profession which worked in its day all over the wide extent of the Roman world. In doing this, it becomes manifest that the members of this profession were of high importance to their country, and stamped its provinces with marks which have in many cases—most remarkably in our own Britain—survived the fall of the Roman Empire to the present day. Knowing as much as we do about the Agrimensores, we cannot but take enough interest in them to wish to know more, and to help, as far as in us lies, in the preservation of all memorials of them and their work which may come under our notice.

That we, as Surveyors, can trace the existence of our profession through men so honourable, and so essential to the policy and customs of their country, is a fact of which we may justly feel proud.

The fact throws upon us the responsibility of maintaining the position which Surveyors have held in the past, and may prompt us with the wish and intention to use greater efforts, as our opportunities serve, to that most worthy end.

AUTHORITIES.

T. Gisborne, Essays on Agriculture, No. 3, Ancient Agricultural Literature, 3rd edition, London, 1854.

A. Rudorff, Ueber die Feldmesser Zeitschrift für Geschichtliche Rechtswissenschaft, Vol. 10, page 412, Berlin, 1815-1850.

Niebuhr, History of Rome, translated by Hare and Thirlwell, edition, Cambridge, 1832.

A. Rudorff (Gromatische Institutionen), (From) Schriften der Römischen Feldmesser, Berlin, 1852.

Gromatici Veteres, ex recensione C. Lachmanni, Berolini, 1848.

W. Smith, D.C.L., Dictionary of Greek and Roman Antiquities, 2nd edition, London, 1878.

H. C. Coote, F.S A., Archaeologia, Vol. 42, No. 8.

M. Cantor, Die Römischen Agrimensoren, Leipzig, 1875.

E. Stoeber, Die Römischen Grundsteuervermessungen, München, 1877.

W. S. Teuffell, A History of Roman Literature (translated by W. Wagner) Vol. 2, London (printed Hamburg), 1873.

Th. Mommsen (Die Libri Coloniarum), (From) Schriften der Römischen Feldmesser, Berlin, 1852.

C. Lachmann (Ueber die dem Boethius Zugeschriebenen Agrimensorischen Stuecke), (From) Schriften der Römischen Feldmesser, Berlin, 1852.

F. Blume (Ueber der Handschriften und Ausgaben der Agrimensoren), (From) Schriften der Römischen Feldmesser, Berlin, 1852.

St. Augustine, De Civitate Dei, Lib. 21.

J. Whichcord, F.S.A., Sessional Paper, read at a Meeting of the Royal Institute of British Architects, 17th January, 1876.

APPENDIX.

Incipit Marci Juni Nipsi, Liber II. Feliciter.

Fluminis Varatio[1].

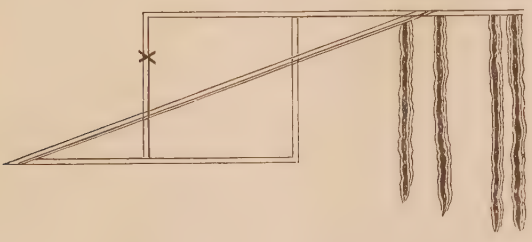
Si in agri quadratura[2] tibi dictanti[3] occurrerit flumen quod necesse sit varari, sic facies. rigor qui impegit in fluvio, ex inde versuram facies. in quam partem verteris, tetrantem[4] pones. deinde transferes ferramentum in eo rigore quem dictaveris ex eo rigore qui in flumine impegerat. deinde transferes ferramentum,[5] et comprehenso[6] eo rigore quem dictasti, versuram facies in partem dextram. deinde exiges medium illum rigorem[7] a tetrante ad tetrantem, et divides illum in duas partes et signum pones perpensum. deinde figes ferramentum ad signum[8] quod dividet duas partes quas divisisti. ex fixo ferramento et perpenso con-

prehenso rigore ad umbilicum soli[9] emissum perpendiculum cum super signum ceciderit[10], percuties[11] cromam donec comprehendes signum quod posueras trans flumen[12]. cum diligenter conprehenderis, transies ex alia parte ferramenti et manente croma dictabis rigorem. ubi se consecuerit norma tua cum eo rigore quem dictaveris, signum pones, et exiges numeros a signo ad tetrantem. sed quia linea quam secueras media[13] duo trigona ostendit sed quia cathetus catheto par est, erit et basis basi par. [14]quantus ergo numerus basis junctus trigoni quem exegisti fuerit, tantus rigor alterius trigoni cujus rigorem factum in fluvium numerus. et de hac base quam exegisti tolles hunc numerum quem a tetrante ad fluvium exegisti. reliquum quod superfuerit erit latitudo fluminis[15].

Diagram from the Arcerian Manuscript (as edited by C. Lachmann).

MARCUS·IUNIUS NIPSUS.

Fig. 218 (*rectius* 211) (*page* 286) *A.*



This figure is nearly right, but there should be only one river, not four; and the line crossed seems superfluous. The problem is, of course, a common one to land surveyors. It is Prob. VII. of Baker's *Land Surveying* (Weale's Series, 1879), p. 31.

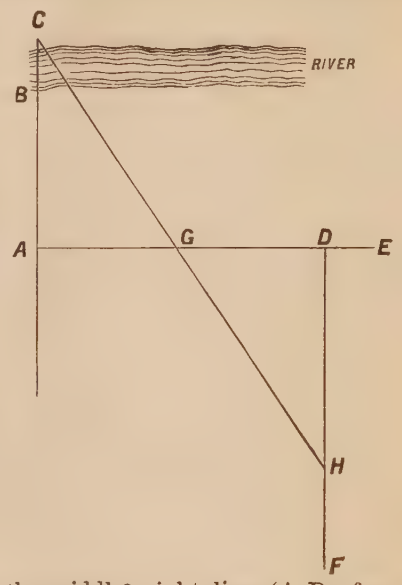
M. Jun. Nipsi, Lib. II. Script. Grom. p. 285, ed. Lachmann.

(Translation).

Overforking[1] *of a River.*

If, in squaring[2] land, a river which has to be forked over shall have met you as you set out a right line,[3] you will act

in this way. From the right line which has impinged on the river, you will make a turn (at the point A). In the direction in which you have turned you place a tetrans.[4] Then you will (set out a right line A E and) transfer the instrument on this right line which you have set out (A E) from the right line (A B) which had impinged on the river, and[5] (from some point in the right line A E) having sighted [6]the right line which you have set out, (A E) you will make a turn to the right, (and place a tetrans there and set out the right line D F).



Then you will measure the middle[7] right line (A D) from tetrans (A) to tetrans (D), and divide it into two parts (*i.e.*, into two equal parts at G), and place a marking-pole[8] adjusted (*i.e.*, perpendicular). Then you will fix the instrument at the mark which will divide the two parts which you have divided (*i.e.*, at the mark at G). Having sighted the right line (A D) from the instrument fixed and adjusted, when a plumb-line let fall near the navel of the bottom[9] shall have fallen on the mark,[10] you will move[11] the groma (= ferramentum) till you sight the mark which you had previously placed on the other side of the river.[12] When you have accurately sighted it, you will pass to the other side of the instrument and, while the instrument remains in position, you will set out a right line (G H). Where your right angle (*i.e.*, the line D F which helps to form the right angle A D F) shall have cut the right line (G H) which you have set out, you will place a mark (at H) and will take the measure from mark to tetrans (*i.e.*, from H to D). But because the line (A D) which you had cut in the middle[13] shows two triangles (G C A and D G H), and because the perpendicular (of the one) is equal to the perpendicular (of the other, *i.e.*, G D = G A), the base will

be also equal to the base (*i.e.*, D H = A C). As great,[14] therefore, as is the number (of feet) of the base of the triangle, which number you have measured, so great is the number (of the feet of the base) of the other triangle whose right line impinged on the river. And from this base (A C) which you have now measured (*i.e.*, by measuring the line D H which has been shown to be equal to it) you will take away the number (of feet) which you have measured from tetrans to river (*i.e.*, A B). The remainder (B C), which shall be over, will be the breadth of the river.[15]

NOTES.

1. *Varatio* is from vara, a fork, as ⋀ or ✕, *i.e.*, two poles leaning on one another. It was used to support cross poles, &c. Hence varatio is "forking," *i.e.*, "striding over," or crossing.

2. *Quadratura* is dividing land into rectangular plots. The regular Roman division was into centuriæ, so called from containing 100 allotments (heredia) of two jugera each.

3. *Dictare* is "dictare rigorem," *i.e.*, to set out a straight line by a series of poles (metæ). Hence sometimes dictare metas. Strictly it means to prescribe or dictate the position of the line.

4. *Tetrans* has been taken by some persons to mean the surveying instrument, by others to mean a cross on the ground. Now the word really means "a fourth"; hence a quadrant of a circle. Hence, I think it means a material right angle, *i.e.*, a thing in shape like a carpenter's square. If so, it would be merely two rods joined so ⌜; but very likely it was made as + and mounted on a pole. The surveying instrument (ferramentum) had also some such arrangement of cross bars, in order to get right angles.

5. I have omitted the second "transferes ferramentum" as probably a mistake of the copyist's.

6. *Comprehenso*, *i.e.*, looking along the line of poles so as to get one arm of the instrument in the line, and thus be able to set out another at right angles to it.

7. *Medium illum rigorem.* The line A D may fairly be called medius, as lying between A C and D F; but I suspect medium should be moved to the next line (divides illum medium), divide it at the middle into two parts. Or it may be a mere explanation of "in duas partes," and thus have wrongly got into the text.

8. *Signum.* The word seems in this passage to be used not as a mere point, which is its common use in Latin Geometry, but as a physical mark of such a point, *e.g.*, a pole.

9. *Ad umbilicum soli.* If the passage on p. 287 (cum perpenderis diligenter tam diu facies ut ab umbilico soli emissum perpen-

diculum supra punctum decusis cadat) be compared with this, it will appear probable that *solum* is the bottom of the instrument, and umbilicum a spike or some projection from the centre of the bottom. Then a plumb-line would be dropped either from this (ab umbilico, p. 287, line 5), or if the text be right in giving ad umbilicum, at or by this, which really comes to much the same thing.

10. *I.e.*, so that you may be sure that the top part of the instrument is moving in a horizontal plane.

11. *Percuties*, *i.e.*, move the top part in a horizontal plane.

12. In setting out the line H C which came upon the river, the Surveyor would have continued his poles on the opposite side of the river and put one on the opposite bank.

13. *Media.* I correct this to mediam.

14. The sentence beginning with *quantus* is in a bad state, but the meaning is clear. I have struck out junctus and rigor, and for rigorem factum read rigor impactus est or impegit. Then it is perhaps not right but translatable.

15. *I.e.*, on the assumption that C was exactly on the brink of the river. If not, a further subtraction would have to be made for the distance from brink to C.

March 1883. H. J. Roby.

Mr. R. Vigers (Fellow) rose with great pleasure to propose a vote of thanks to Mr. Woolley for his very able paper. He was not prepared to take part in its discussion, and would confine himself to expressing on his own behalf and that of the members of the Institution generally their sense of obligation to Mr. Woolley for undertaking the immense trouble of preparing this valuable and exhaustive Paper.

Mr. J. Lucas (Professional Associate) had great pleasure in seconding the vote of thanks to the Author for his very able Paper. He well knew the labour involved in the study of "Frontinus," as it once happened to him to have to work out that writer's account of the waterworks and aqueducts of the Romans, the ruins of which still existed.

So far as he was aware the only account of the Agrimen-

sores in the English language at all accessible to ordinary readers, was contained in the appendices to the English translation of "Niebuhr's History of Rome."*

The first of these appendices was "on the Roman mode of partitioning landed property and on the *limitatio*," and many other points referred to by Mr. WOOLLEY. The second dealt with the Agrimensores. The author of the Paper had not in so many words defined the meaning of the *limitatio*, which was simply drawing lines north and south and east and west crosswise, to effect an uniform division of the lots, and to fix immutable boundaries for them. Another word which he thought should have been strictly defined in the Paper was "Ager," which was a district belonging to the village, or any civic community, a group of "agri," making up what the Romans called "terra" or country.

The "metatores," whom the author had referred to as measurers would, he thought, be better described as users of the "meta,"—the iron-shod staff alluded to in the Paper. The author also described the "Pomœrium" as a strip of land on the inner side of a town wall. It was equally on the outer side, the town wall, he apprehended, being built half way between the boundaries of the Pomœrium. Allusion was made in the Paper to GERBERTUS, afterwards Pope SYLVESTER II., and to AGGENUS URBICUS, who referred to FRONTINUS on the subject of controversies, of the qualities and names of fields, and of boundaries. He (Mr. LUCAS) perceived that NIEBUHR referred the second manuscript, the Gudian, to the seventh century, and thought it must have been composed at Rome. With regard to the work of RIGALTIUS which was published in 1614, and that of GŒSIUS, published in 1674, NIEBUHR was of opinion that what RIGALTIUS did for the AGRIMENSORES

* Vol. II. Transl. by J. C. Hare and C. Thirlwall, 1847 to 1851.

was of great value, but that the laborious work of Gœsius was almost useless.

Of the many titles quoted as having been given to men of the profession by the Emperor Theodosius, one had been omitted. Theodosius the younger conferred on them the title and rank of "Spectabiles." The author of the Paper had remarked that the Surveyors of the Roman Empire "were bound together, though, perhaps, not in a visible corporation, so as to influence the position of the profession." He (Mr. Lucas) presumed he meant a "collegium," which however, would be not what was now called a college, but a sort of guild. There was a Collegium of smiths, and no one was allowed to practice that trade unless he belonged to it.

The author had also said, that "in the earliest times the land was in principle held in equal portions by Roman citizens, no one man holding more than two jugers, which would be nearly equal to two roods and twenty perches." He (Mr. Lucas) found that the juger was 28,800 Roman sq. ft., equal to 26,930 Eng. sq. ft.

One of the most interesting points in the Paper was the reference to the pertica or Roman perch, a ten-foot measuring pole, or rather 9 feet $8\frac{1}{2}$ inches of our measure. This was a curious and not altogether unimportant point to notice, for he had had to survey accurately one of the ancient common fields of England which lay between the town of Worthing and Heene, which by reason of its consisting of numerous strips held by different proprietors, remained unbuilt upon to the present day. Running N. and S. up the middle of the field was a ten-foot occupation road known as "The Driftway" the strips or "lands" extending E. and W. on each side of it. His point was that the depths (not the lengths) of the strips measured along the driftway was about 58 feet, which would give 6 Roman perches. The author had observed that the juger was equal to 2r. 20p. Each of these "lands"

measured 3 roods, but whether they originally measured 3 roods or the true Roman juger was a very nice question. The difference between the "land" or local acre of 3 roods and the Roman juger was exceedingly small. He could readily imagine that when the juger was forgotten, these slips were slightly altered in their area.

It had been pointed out in the Paper that the word "assignation" may have been derived from the "signa" or standards, which was exceedingly probable. In HORACE's 1st Epistle, lines 7 and 8, they were told that ROMULUS, CASTOR, and POLLUX, and others, after they had found their way into the temples as gods—

"aspera bella
Componunt, agros assignaut, oppida condunt,"

that is, "put an end to disastrous wars, assign lands and build towns," as described in the Paper.

According to Mr. WOOLLEY, the Surveyors in using the groma for the purpose of laying out their lines faced west. That was the latest practice as given by FRONTINUS; but, in the Appendices to NIEBUHR's "History of Rome," many old Roman authorities were cited for the Augurs (who were followed by the Agrimensores) facing not only west but south.

The word "subseciva" might mean originally a "part cut off," probably containing the root of the word "seco" to cut. The "heredia" originally contained two jugers, not necessarily lying together. There was no reason why they should not lie in different parts of the common field, as they frequently lay in England. The "ager arcifinius" was the public domain, as well as every piece of landed property not assigned by the State which would come under that head. It would be simply land without boundaries, or with natural or arbitrary landmarks, such as were described in the Paper.

A description had been given in the Paper of a most elaborate system which must have grown up gradually over a long course of time, and have been perfected from various sources. According to Mr. Woolley, it was the Egyptian surveyors who instructed the Romans, but it would be found, he thought, that others besides the Egyptian surveyors instructed them also. Mounds had been mentioned called "botontini," a word very unlike a Latin word, and he could not help thinking that it was derived from two old Norsk words which had been put together and Latinized. The old Norsk or Scandinavian word "botn" was etymologically the same word as the Latin word "fundus." It had the same root, skeleton, and signification, and the Latin word "fundus," which meant an estate or farm, meant something beyond. It meant the head of a bay, or inlet of sea, or head of the valley, the old Norsk word "botn" having the same signification. It was also found in the Swedish form of "botten," *Ger.* "boden," in *Dan.* "bund," the *A. S.* "botom," and *Eng.* "bottom." They were all the same word. The *Span.* "fundo," meant estate, or heraditament, and the probability was that the "boton" in "botontini" meant "estate." If that was a correct view, the second half "tini" was also a word of Gothic origin, implying "boundary," which was the meaning of the name of the river "Tyne" in the North of England. On that assumption the word should be literally translated "estate" or "estates boundaries." According to Mr. Woolley, the word "botontini" marked where three or four estates met. In that case "boton" represented the genitive plural, in old Norsk, "botna." The Gothic forms of those two words were unfortunately not preserved, but there was every reason to suppose that "Tyne" was a purely Gothic word. If "botontini" had stood by itself, he did not think he should

have mentioned it, but the author had referred to the word "rigores," which meant identically the same thing, "dividing lines," or balks or ridges. In the North of England they had "rig," which meant "ridge" or "back," as the back of a sheep, as well as any ridge, large or small; but when traced to the old Norsk or Scandinavian, it was found to assume the form of "hryggr," and he believed the word was adopted into the Latin and spelt "rigor," which meant nothing more than the ridge turned up by the plough marking out divisions. He thought the suggestions which he had made pointed to some part of the system of the Agrimensores having been derived from Teutonic sources.

Mr. Reginald Woolley having briefly acknowledged the vote of thanks,

The President said that, although he suggested the subject to his son, he was himself wholly unacquainted with the details of it. He did not know, indeed, until that evening in what way it would be treated, though he was aware that no pains had been spared in consulting the Latin, German, and other authorities on the subject.

Without professing to be wholly unbiassed, he might perhaps venture to express the opinion that, although the Paper might seem on the first hearing somewhat dry and uninteresting, it would repay careful perusal, and might, perhaps, be recommended as an example for the imitation of their younger Members, upon whom the future standing of the Institution depended.

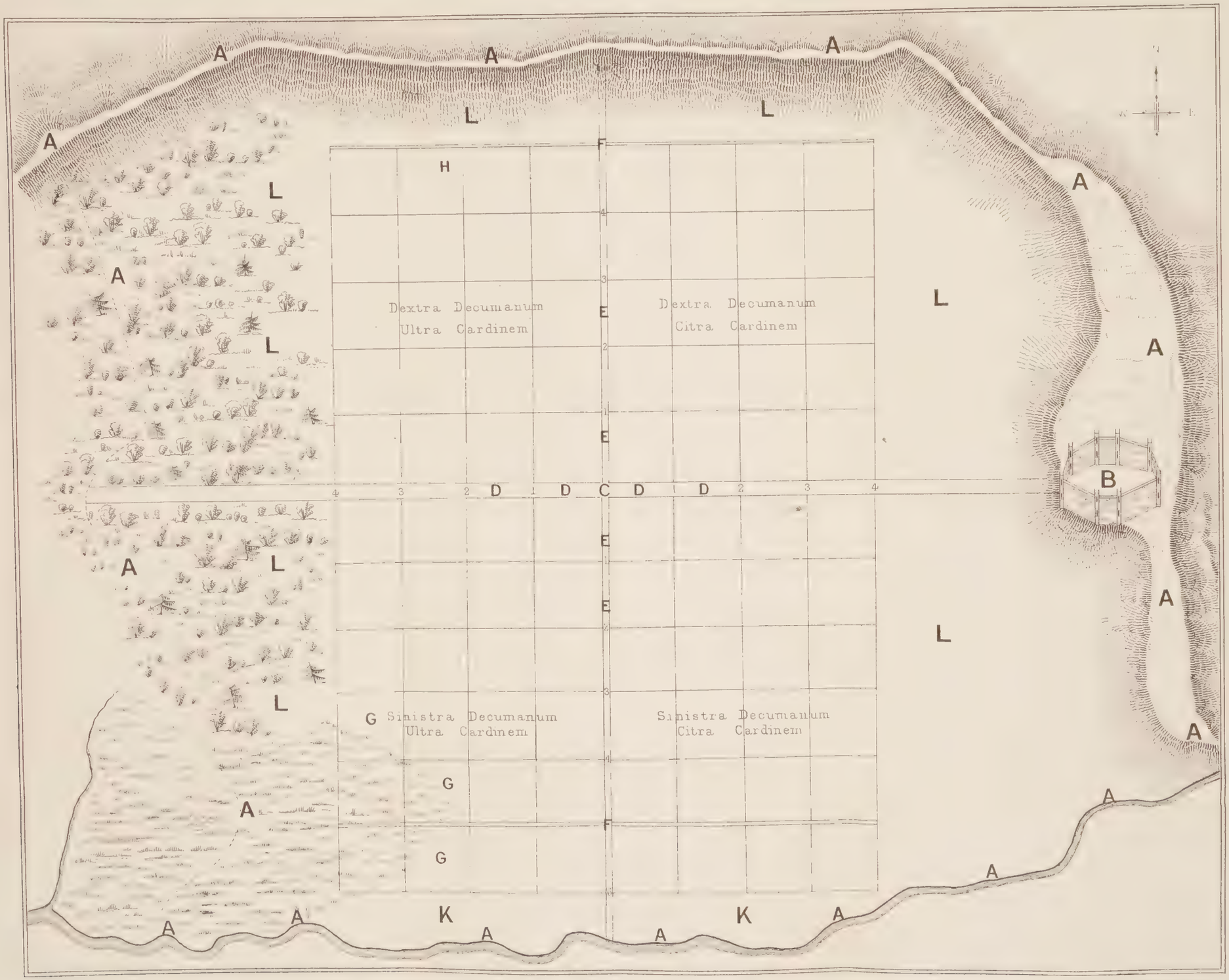
With respect to the remarks by Mr. Lucas, interesting as they were, it was to be feared that the masters of the new school of philology would seriously demur to some of the ingenious etymological theories which he had propounded;

and he (THE PRESIDENT) would say for himself that the path by which Mr. LUCAS had travelled from the Agrimensores to the conclusions at which he had arrived, had little in common with the obviousness and directness of a "*Viâ* Decumana."

The Meeting then adjourned.

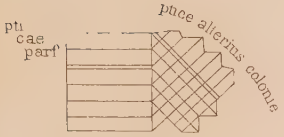
To illustrate Mr. R. Woolley's Paper on "Agrimensores."

FIGURE B.



The Surveyors' Institute Transactions Vol. XVI Session 1883-84.

FIG. C.



FROM GUDIAN M.S.
(ED: LACHMANN, FIG: 135)

FIG. E.

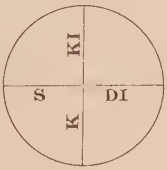
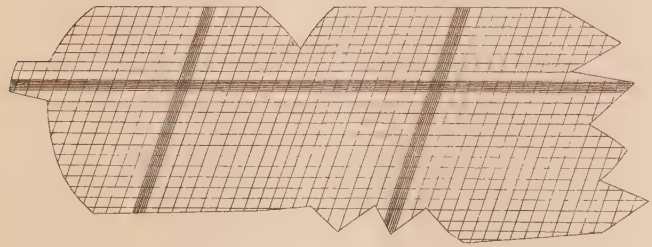


FIG. D.



FROM ARCERIAN M.S. (ED: LACHMANN, FIG: 5)

Kell Lith 8 Castle St Holborn London E.C.

Paper 120
No. 207

THE CONSTRUCTION
AND
MAINTENANCE OF COUNTRY ROADS.

By A. J. BURROWS (Fellow).

Read at the Ordinary General Meeting of The Surveyors' Institution, *March 10th*, 1884.

THE PRESIDENT (MR. T. SMITH WOOLLEY) IN THE CHAIR.

Road-making being one of the subjects of our Professional Examination, it has been suggested that a Paper on it might be opportune at the present time. This will account for my treating it in a somewhat elementary manner. But I trust it will prove useful to the Student class, and that the discussion which I hope to originate will possess an interest for all.

By looking at Part I. of the first schedule of the Agricultural Holdings Act, 1883, we see that "the making and improving of roads and bridges" is one of those works for which, if the previous consent of the landlord has been obtained, a tenant about to quit his holding may claim compensation. So we may expect to see many an enterprising tenant-farmer trying his hand upon road-making. By the Settled Lands Act of 1882, a limited owner may expend the money raised by the sale of a portion of his estate in effecting improvements upon "farm roads, private roads, and roads and streets in villages and towns" which form part of the remainder. This offers an inducement to the landlord to remedy what is upon some estates a source of the greatest inconvenience—the want of proper means of internal communication. The combined results of these Acts of the legislature will undoubtedly bring matters

connected with road-making and road-maintenance more frequently and more prominently under the notice of Surveyors and Estate Agents.

Dr. LARDNER described a theoretically perfect road as one perfectly level, straight, smooth, and hard. And though in practice we cannot hope to attain to this ideal perfection, the requirements of the traffic of the present day are such as to necessitate considerable reform in the entire system of road-maintenance in our rural districts. In addition to the heavy traffic of former times we have now to provide for the ponderous traction-engine with its destructive grip and its train of carriages on the one hand, and for the easy glide of the cyclist on the other. Between these we have vehicles of all weights and of all classes, whose durability and lightness of draught, and the comfort and safety of whose occupants, are largely dependent upon the state of the highways. And just as the insufficient bottom drainage, the defective foundations, and the inferior quality of the materials formerly employed render our roads unfit to bear the strain of the heaviest traffic, so the rough and unconsolidated surface metal, and their general neglected condition cause them to be almost impassable to the other.

The prosperity of a district may to a great extent be judged of by the state of its roads. AUBREY said long ago of one county that "by reason of its clear ayre and clean wayes it was full of many gentle habitations." Modern travellers are no longer content to ford a brook or even the smallest rivulet; but the Queen's Highway must be bridged, metalled, and cleansed in accordance with our present notions of safety and comfort in travelling.

BLACKSTONE tells us that the vestries of former days considered that a road "need not have any other qualification than two ruts for the wagon-wheels, and a trackway for the horses." Into these tracks rough materials were from time

to time shot from the carts, partially broken *in situ*, scraped over or shovelled off at long intervals, until at last it became almost impossible any longer to cast the *débris* over the side mounds. The construction of the carts and wains of those days—the strength of the timbers and the height of the wheels—sufficiently indicates the state of the roads. Those who would form an adequate idea of the difficulties of travelling which in those times others besides "the rude forefathers of the hamlet" had to encounter, should read ARTHUR YOUNG'S "Six Months' Tour," or some of the early chapters of MACAULAY.

The history of road-making in this country is to some extent a record of the progress of its civilisation; for though some of the old lines were chosen with great judgment, and the construction showed considerable engineering skill, these are to be attributed to Roman enterprise rather than to native talent. The pioneers of good road-making in England were TELFORD and MACADAM. The former may be said to have resuscitated to some extent the system of the Romans, who aimed at a rigid and unyielding foundation. The Glasgow and Carlisle and the Holyhead and Shrewsbury roads have often been pointed to as examples of TELFORD'S success.

Some of those I am addressing will have distinct recollections of the old system of parochial Surveyorship, under which each large ratepayer in turn filled the office, took over the books and the deficiency (for a "balance in hand" was rarely heard of)—roughly coated from the nearest stonehole, and with but little regard to the quality of the material, the highways most useful to himself, attended another meeting at the end of his year of office to audit his accounts, and then bequeathed his mantle to his successor,—thus being superseded before he had acquired a knowledge of the rudiments of his art.

The maintenance of the roads by statute duty, which compelled every man keeping a team or renting up to £50 a year to furnish a week's work of that team or an equivalent in money, was a costly operation. Horse labour was excessive; and manual labour, beyond the expense of digging the stone and cracking it down, had almost reached a vanishing point. Take as an illustration the Epsom roads before they came under the management of Sir James Macneil. Cartage alone was £1,044, and manual labour only £359. In two years he altered the proportions to £227 for team work, and £1,146 for manual labour. The Croydon parish roads under Penfold's management furnish another instance of the great saving to be effected by economising materials. There expenditure was reduced from £1,047 to £485.

Friction and gravity are two important factors which must be taken into consideration in road construction. The first of these being, according to our best authorities, about $\frac{1}{30}$ of the gross load with a well-built vehicle and upon the best macadamised road, and about $\frac{1}{28}$ on the metals of a railway, we see at once that as the surfaces in contact, or the rubbing surfaces, become smoother, the co-efficients of friction are reduced. When we ascend an incline the tractive force required to draw a load will be the work due to friction plus the work required to overcome gravity. Thus, if a horse draw a load of one ton along a smooth macadamised road, he exerts a tractive force of about 74 lbs. If the gradient of the road be increased to 1 in 30, the work due to gravity will be equal to the work of friction, because for every 30 feet travelled the whole load will have been lifted 1 foot. In this case traction will be expressed by the following figures :—

$(\frac{1}{30} + \frac{1}{30})$ or $\frac{1}{15} \times 2240 = 149$ lbs. in ascending.
$(\frac{1}{30} - \frac{1}{30})$ or $0 \times 2240 = 0$ „ in descending.

Whenever in descending a slope the work performed by gravity, or the momentum given to the load, exceeds the retarding force of friction, there must be a loss of mechanical energy, as some acting force must be exerted either by the horse or by means of the skidpan, in both cases additional wear of the road being caused.

Line of Road.—A perfectly straight and level road is seldom attainable except at a sacrifice of economy in construction. But in laying out our roads we should not forget that a straight line measures the shortest distance between any two places. Next to the shortest route, or sometimes even before it, the road-engineer has to study how he can avoid all steep gradients and all hollows and wet tracts of land. That road which has the least difference of elevation between its extremes, or in which the total of the ascents and descents is the least, will—*cæteris paribus*—be the easiest to travel and the cheapest to maintain. It is calculated that a road with a gradient of 1 in 20 will cost in maintenance double that of another with a rise of only 1 in 40. Here we have to take into consideration the disintegrating forces of the extra grip from the feet of horses both in ascending and descending, the wear from skidpans or drags, and the washing of storms, the water from which removes the binding materials, and often lays the body of the road bare.

The actual difference in length between two roads leading from one village or town to another, the one passing over a hill of considerable elevation, and the other deviating half a mile or thereabouts from the straight line, is so small, that any extra outlay in construction is more than counterbalanced by the greater facilities given for carrying heavier loads. Besides the loss in load from the incline, there is often a considerable loss of time also.

Cuttings and embankments are but seldom advisable except in the case of main roads where the traffic is great.

The heavy cost of these operations will not warrant their being carried out to any great extent upon farm-roads, or roads through thinly-populated districts. But more will be said under this head when we come to speak of construction.

It is observable that upon a road with an occasional slight gradient, such as 1 in 80 or 1 in 100, a horse performs a long journey with more apparent ease than when travelling over a continuous dead level. The slight changes in the line of draught evidently relieve the animal.

Width of Roads.—Having fixed upon the line of road, our next consideration must be its width. And here our guide will be the local traffic at the time of construction, or the probable future requirements of the district. Many of our country roads are at the present time metalled only to a width of 10 or 12 feet, or in some localities even less. Vehicles passing each other have to encroach upon and cut up the water-tables, where such exist. And with such narrow roadways and deep side ditches, the heavy traffic is in many places squeezing out the beds of these roads and filling up the ditches. Less than 14 or 15 feet of metalling is seldom advisable. With such a width two conveyances can safely and conveniently pass each other. The first cost of construction will be greater, but after-maintenance will not be proportioned to the increased width. The distribution of traffic will keep the road surface in better condition than it is possible to maintain upon a narrow track. As we approach towns, railway stations, and centres of traffic, roads should widen proportionately. Some multiple of 8, as 16, 24, 32, and 40 for the roadway, and a multiple of 2 for the footpath, will be found convenient widths.

With very narrow roads, or with traffic restricted to one line, either from insufficient width or from convexity of surface, no highway will long bear the strain from very heavy loads passing along in the only available track, especially on the breaking up of a frost or during a very wet winter.

The evil will, of course, be aggravated when the wheels are narrow and their diameters are small. With proper facilities for quartering, the result is generally an economy of material and diminished labour bills.

Drainage.—The thorough drainage of a road will, under ordinary conditions of weather and wear and tear, reduce the cost of its maintenance one half. This remark applies to the under-drainage quite as much as to the surface drainage. A good system of drainage for a country road I take to be such as is illustrated in the diagram* before you. Here D represents the side ditch cut for receiving and carrying off the surface water, and placed upon the field side of the fence. Its depth and width may be proportioned to the nature of the soil and the requirements of the situation, but it could not be so far deepened as to be below the road drains without inconvenience and even danger. Outlets from the water-tables to this should be formed at proper intervals, and pipes be laid under the foot-path wherever such are required. CC are drains cut along the outsides of the metalled roadway from 3 to 4 feet deep, and having pipes laid along the bottom, the trenches being afterwards filled up with well-rammed earth or stone. Opportunities will be found of relieving the drains CC of their water by deepening the side ditch occasionally upon slopes, and independent outlets may be formed wherever required. Water penetrating such a road, breaking into it from adjoining lands, or rising by capillary attraction from the subsoil, would be received by these and quickly carried off into lower back ditches, or by means of any properly-constructed outlets.

Roads skirting the side of a hill are particularly liable to springs breaking up through them. These can generally be cut off by a deep trench on the upper side, which may afterwards be laid with pipes or filled up with rough broken

* See page 274.

stone. The mitre drain so often recommended for tapping the spring, though effective for a time, is very liable to get out of order, and its opening interferes with and weakens the road surface.

The efficiency of the surface drainage will depend upon the proper cross-section of the road, and the formation and maintenance of the necessary water-tables. Longitudinal channels formed by running water deepen rapidly. Upon hilly roads a proper convexity of surface and good water-tables are very essential. And upon a dead level there is no other way of ridding the road surface of its water. An annual clearing out of all side ditches, and the proper repair or reconstruction of the water-tables is necessary. This is best done late in the autumn, after the growth of grass is somewhat checked. Wherever there are back ditches, these should be considerably below the level of the road, as water remaining stagnant in them will otherwise weaken the road foundations.

Though ditches upon the road side of the hedges or fences are supposed to be more under the control of the road-surveyor and his staff, the safety of the traveller is much better considered by cutting them on the field side. Though they are occasionally trodden in by stock, they give additional strength to the fence. With traction-engines to be passed daily upon our roads, precautions of this kind are now more than ever necessary. When there is a considerable width of roadway, or where a raised footpath comes between this and the hedge, the position of the ditch is of less consequence.

On the subject of road drainage, Sir John Macneil says:—"If a road be weak or elastic, and bend or yield under the pressure of the wheels, the particles of which it is composed will move and rub against each other, or perhaps break by the action of the heavy wheels over them. In a

case where an accurate experiment was made, the wear was found to be 4 inches of hard stone, where it was placed on a wet clay bottom, while it was not more than half an inch on a solid dry foundation, or with a pavement bottom on a part of the same road, where it was subjected to the same traffic."

In many localities the drainage of the road may, on one or both sides, be made contributory or subservient to the general drainage of the district, benefiting landowners as well as the great body of ratepayers.

Cross-Sections. — The stability of a road and its economical maintenance will, next to good under-drainage and a choice of proper materials, depend upon its cross-sections. If the surface be kept too flat, or, as is sometimes the case, from excessive wear and insufficient materials, slightly concave, water will lodge and penetrate, and decay will be hastened. If, on the other hand, the surface be too convex, there will be a lateral wear from the tendency of the wheels to strike off or slide down the incline. Thus both the wear of road and wheels and also draught are increased. Besides this, with too convex a surface, the vehicle can be kept in an upright position only by the horse taking the centre of the road, so that the whole of the traffic will have a tendency to follow in one line.

Before commencing to lay on the materials for the body of the road, or even for what may be considered as its artificial foundation, the proper cross-section should be given to the bed itself, be this clay, chalk, or unscreened gravel, &c. By adopting this plan, no water may afterwards be expected to lodge in the metalling, and with such a construction of the road throughout, maintenance will be limited to necessary wear and tear only. The bed of a road should in general be formed not by the very common practice of excavating, but by filling in hollows and thoroughly consolidating all added materials.

The necessary amount of fall from the centre to the sides of a road has by different authorities been variously estimated. Something must depend upon the quality of the materials used and the general state in which the road surface will be kept. Where the very best of road metal is available, and the road is to be kept in a high state of efficiency, tolerably free from dust at one time of the year, and from mud at another, a minimum fall of $\frac{1}{4}$-inch to the foot, or 1 in 48, might be sufficient. But in practice this is seldom found enough, and $\frac{1}{2}$-inch to the foot, or 1 in 24, is preferable. Many prefer about 1 in 30. Either of these sections may be expected to insure a tolerably regular distribution of traffic.

New roads may at first have even a little more convexity, as materials will find their way to the sides, and the greater part of the traffic running along the centre will in time reduce this. Roads with a good gradient require somewhat less convexity than those along a flat country. But upon steep inclines convexity should not diminish. With a considerable length of hill road it may be advisable, where possible, to widen the water-table, making its last two or three feet more rounded. Pitched gutters are also necessary in such places. Whatever the cross-section may be, a properly-constructed road surface should, from the outer edges of an ordinary water-table, form a small but a regular segment of a large circle. It is only by making the whole roadway stand out in bold relief, free from the shade of hedges and the drip of trees, that the sun and wind can properly act upon it and keep its surface dry. A great feature in NAPOLEON'S roads was their convexity of surface; and in this respect not only France but Northern Italy and Switzerland are worthy of our imitation.

MATERIALS AND CONSTRUCTION.—Whatever the road-bed may consist of, one of the first considerations should be

the proper settlement of this by heavy rolling in dry weather. This rolling will be done as soon as the under-drainage is completed and the formation carried out. Should the geological formation of the district necessitate the construction of a road upon a bottom of clay or chalk, a few inches of vegetable mould or of burnt ballast should be placed between these and the metalling. *Strong clay* is so liable to expansion from wet weather or from frost, and to contraction in seasons of drought, that it constitutes about the most unsatisfactory bottoming a road can have. Without a great thickness of metal, no road will long maintain an unyielding surface upon a clay bottom. *Chalk*, also, has so great an affinity for water, or, to speak more exactly, it takes up so much water by capillary attraction, that great expansion takes place directly the frost reaches it, and after blowing up the surface, it appears as a soft paste—technically called "mustard-pot"—rendering the road highly dangerous.

Where the soil of a district is gravelly, the proper formation, drainage, and a good rolling would be the only requisites before laying on the screened and broken gravel. Where road materials are difficult to get, a good bottoming of *ballast*, or burnt clay, may be obtained at little cost. A diluvial clay makes excellent ballast. I have turned it out ready for road-bottoming at a cost of less than 2*s*. per cubic yard, including digging the clay, clamping and burning, and the necessary fuel. The digging, wheeling, and burning cost 1*s*. 1*d*. per cubic yard; and a chaldron of breeze, costing 9*s*., burnt from 9 to 12 cubic yards, according to the size of the heap. The purer the clay the better the ballast. If used for road-bottoming, it should be at once well rolled down, and the coating of metal should be laid on immediately.

Excepting for passing over boggy or spongy places which are difficult to drain, the use of *bavins*, or *faggots*, is now very

generally objected to. But my attention was recently called to a farm-road upon a gravelly soil in the county of Kent, which was constructed more than forty years ago, and bottomed with faggots of Scotch fir. This road has for many years been subjected to the traffic of heavy traction-engines without showing any signs of yielding.

With the present heavy traffic upon our roads there can be little doubt that the best system to adopt is that of a concrete bottom, or a pitching composed of stones of a good size, fixing these by hand firmly upon the soil, with the broadest side downwards. Large flat stones are undesirable, as however firmly they may be placed they will generally rock in time. On this account it is better for their upper edges not to be more than from 4 to 5 inches wide. The spaces between the crowns of these stones should be carefully hand-packed and rammed, with about 5 or 6 inches of broken metal laid on: the whole may next be horse-rolled, steam-rolled, or consolidated by broad-wheel traffic. If materials of different qualities or degrees of hardness are used in road construction, the softest should go into the bottom. Where the whole body of the road is to consist of broken stone placed upon the natural soil, from 14 to 16 inches may be laid on and rolled down at three operations, water being used in dry weather.

As we approach the surface of the road, materials of superior excellence should be chosen. These should as much as possible combine hardness with toughness,—qualities which are found in some of the traps and basalts, such as those of the Clee hills and the granites of Aberdeen and Dartmoor. In these the hornblende gives a toughness which the lighter granites do not possess. The thickness of the body of the road should be proportioned to the quality of the materials. The best stone is the cheapest in the end: its first cost may be greater, but it goes

farther, lasts longer, and consequently causes less labour after it is put down. It is economical, because a thin coating of it is more effective than a thicker one of an inferior metal. In speaking of thick coatings, PENFOLD says—"When a thick coat is laid on the destruction of the material is very great before it becomes settled or incorporated with the road. The stones will not allow each other to be quiet, but are continually elbowing one another, and driving their neighbours to the left and right, above and below. This constant motion has the effect of wearing off the angular points, of producing mud or dirt, and of reducing the stones to a circular form. When in this state their chance of becoming fixed or incorporated is in a great measure done away and destroyed, and the road is consequently never seen in its proper shape."

The road surface should consist of the finest broken stone—its size depending upon its quality. The better the stone the smaller it may be broken. Cubes of 1¼ inches, or at the largest 1½ inches, are here required. The traps and basalts already spoken of make excellent metalling. Besides being tough they remain uninfluenced by the weather. Flints alone are objectionable on account of their brittleness. With our Kentish ragstone and a little fine beach or shingle they make a very compact road surface. Surface-picked flints are more durable than those recently dug out, but their wear is very uneven. A good limestone, perhaps more than any other, confines the wear of a road to its surface.

Whenever in road construction a binding material is used this should be specially adapted to the metal employed upon the surface of the road. Thus siliceous materials will do well with a limestone binding, whilst a road constructed mainly of limestone is best treated with sand or fine gravel. Earthy matters of all kinds, and especially clay, should be excluded. Chalk should, if used at all, be put on very

sparingly, though upon many of our flint roads small quantities are scattered over the surface in a dry summer with good effect. In the proportion of about 1 to 6 with fine clean gravel it makes a useful coating to a flint road which has been thoroughly consolidated, and lessens the wear. In France a binding material equal to one-fourth the body of the road is allowed: in Hanover, one-sixth. No binding material should be added until a road has been well rolled or worked down, otherwise it will make its way to the bottom. In using a binding material, watering is generally desirable.

Rolling.—Road-rolling has been several times alluded to. And upon the proper use of the steam-roller the compactness, strength, and consequent durability of a road will greatly depend. Besides being the most efficient, it is also the most economical, method. From the formation of the earthy bed to the final coating the steam-roller should be constantly used. Nor is it out of place in road repairs; for wherever considerable quantities of material have to be put on in a continuous line, with a picked-up or loosened road surface, the roller may be advantageously used. Much good may be done with horse-rollers up to 3 or 4 tons weight. But steam-rolling is preferable if too great a weight be not applied at first. Some of the best work has been done by Aveling's roller, covering a width of about 7 feet and weighing not much over 7 tons. This worked at a cost of from 22*s.* to 25*s.* per day, thoroughly compressing upwards of 2,000 yards of new road surface.

It is a well-known fact that by the use of the steam-roller a good road of a proper thickness and of greater strength can be obtained at a less expense in materials than by any other method. Whenever we lay road materials upon anything but a hard and dry bottom, and subject them at once to the traffic of narrow or small wheels, much of

the metal is driven down and pressed irregularly into the soil, while more of the mud is squeezed up amongst the remaining materials. The system of forming new roads by tolerably thick coats of stone and steam-rolling has been common in France ever since 1840. And after allowing the expenses of rolling, French engineers credit themselves with a saving of 50 per cent. in road maintenance by the adoption of this method. The comparative costs of horse and steam-rolling are greatly in favour of the latter. Parisian trials show equal results at a cost of 1*d.* for horse-rolling as against $\frac{3}{4}d.$ for steam-rolling, or 25 per cent. in favour of the latter. Steam-rollers up to 14 or 15 tons may be used with good results. But lighter ones capable of being weighted up to this would be most useful. The advantages of steam-rolling are by no means limited to the economy in materials. The saving in horseflesh, in harness, and in vehicles is also considerable. This has less effect in towns and cities than in the country. But some years ago it was computed that within a radius of $4\frac{1}{2}$ miles from Charing Cross about £4,000,000 sterling was invested in horses, harness, and carriages of all kinds. In 1870 it was estimated that within a radius of 12 miles from Charing Cross there were 40,000,000 of square yards of macadamised roads.

And we have it upon the authority of a paper recently read before the Institute of Civil Engineers, that in 1878 London contained 1,338 miles of macadamised roads of an average width of 30 feet between the channelling, upon which were laid in the course of a year 307,700 tons of macadam, chiefly flints.

A tabulated statement put forth by Mr. Parry, an Associate of the Institute of Civil Engineers and Borough Surveyor for Reading, gives the opinions of between forty and fifty practical Surveyors in different towns upon the

advantages of steam-rolling. The rollers reported on vary in weight from 9½ to 15 tons, but principally the latter. The engines range from 5 to 12 h.p. The rollers have in many instances been worked upon gradients of 1 in 12, and in Blackburn of 1 in 9. At Maidstone a roller of 15 tons, with an engine of 12 h.p., consolidated 6,000 superficial yards of limestone road in a day. When good materials are used the broken stone rapidly settles down under the roller and maintains its angular form, which gives the greatest strength to the road. But even a well-made road will at first contain from 40 to 45 per cent. of interspace. This may at once, and with great advantage to the road, be reduced to 30 per cent. or less by steam-rolling.

The use of sand in road-rolling is very desirable if this be laid on at the proper time and well proportioned, as it lessens the crushing of the metal. In Prussia it is found so effective that in breaking up old roads, united blocks of macadamised materials, 18 inches square, are frequently taken up.

Experiments by Mr. Mitchell show that when a cube yard of stone is broken into road metal of 2½-inch gauge, and laid on 6 inches thick, it contains about 11 cubic feet of interspace. And as a well-rolled road covering contains only from 20 to 30 per cent. of interspace, and must therefore consist of from 70 to 80 per cent. of solid stone, the advantage of the latter in point of solidity and stability is apparent.

Preparation of Materials.—The quality of almost every material required for road purposes is considerably improved by a reasonable exposure before use. Ten per cent. is in most cases not too much to allow for this. The average cost of digging rock in four different highway districts of Kent I find to be 1*s.* 4*d.* per yard. Gravel costs 2*s.* 5½*d.* per yard; flints, 1*s.* 6½*d.*; beach or shingle into railway trucks, 2*s.*

The cartage of materials to the depôts on the roadsides should never be delayed beyond the end of the summer. An average price of $7\frac{1}{2}d.$ per yard per mile represents the cost in the four districts above alluded to.

The breaking of rock and flints averages 1*s.* 1*d.* per yard for metal to pass through a $2\frac{1}{2}$-inch ring. Macadam fixed upon the 2-inch ring, or 6 ozs. in weight, as the maximum size of good road metal. The criterion of weight is undoubtedly a good one. Taking granite in the solid at 12 cubic feet to the ton, whinstone (either greenstone or basalt) at very little less weight, flints and compact limestones at 14 feet, and quartz sandstone at about 15 feet to the ton, the relative weights may determine the size of the broken metal. A cube of $1\frac{1}{2}$ inches of really good roadstone weighs about 6 ozs. For steam-rolling it may be advisable to leave the stones somewhat larger. Road-surveyors of considerable experience in Kent assure me that they find the $2\frac{1}{2}$-inch gauge too small for engine traffic. But as the real objects and advantages of road-rolling are settling down or binding the materials, and not crushing or breaking, we should leave only the consolidation to the roller. An approximate uniformity of size in the broken metal is desirable, as the more regular it is and the more cubical its form the better for the roads.

Stone-breakers of various sizes, from 7 inches by 4 inches to 25 inches by 16 inches in the width of the mouth, and equal to the crushing of from 20 to 130 tons of metal per day, according to the horse-power of the engine employed, have long been in use. The cubing jaws are supposed to possess great advantages over the fluted ones. But the crushing action of even the best stone-breaker produces a flakiness in the material which greatly diminishes its wearing powers. I have myself covered alternate lengths of the same road, subjected to equal amounts of traffic, with a

coating of each, and have invariably found the results in favour of hand-breaking.

The cost of putting on or spreading stone will depend upon the system adopted in laying out or stacking. With large heaps in depôts not more than a hundred yards apart, a man will dispose of from 6 to 7 cubic yards per day. Smaller heaps spread over larger areas will cost more in proportion. The average cost of spreading in the four highway districts before alluded to is about 7*d.* per yard. But much of it is day-labour.

Wear and Tear.—The wear of a road will depend upon the amount of traffic, the quality of the materials used, the drainage, the gradient, and cross-section, and the general state of the road-surface. Where the best of material is available, about 80 per cent. will be due to wear, and 20 per cent. to weathering influences. The amount of wear may again be subdivided into that occasioned by the shoes of horses and that by the wheels. With an increase of the speed travelled, the wear from wheels diminishes, and that from shoes increases. Another quotation from Sir John Macneil will be pardoned:—"Generally speaking the wear from any cause is less in proportion as the road is kept in good condition as to surface, solidity, thickness, and drainage. It is less on a slight gradient than on a dead level, because of the drainage; but on hills it is increased by the use of skidpans or drags, and from the effects of running water. The surface of a hill is washed clean, and looks better than the flat below, on which the mud is carried down, and this often leads to the neglect of the hill until it is worn down to the rough bottom stones. Where traffic follows in the same line, which it has a great tendency to do, particularly where the surface is soft and the tracks are visible, there is a great increase of wear."

Vehicles and Wheels.—The durability of a road, even

of the best construction, will be greatly dependent upon the kind of traffic to which it is subjected, but more particularly upon the size and width of wheels. The foundations of most of our country roads are so imperfect that heavy loads upon narrow wheels search them to the bottom. The crust alone has to bear all the strain, and directly this is broken through the metalling is forced into the substratum. With narrow wheels and those of small diameter, greater weights have to be borne by a less part of the road surface. On this principle 2½-inch wheels cause double the wear of 4½-inch. After 4½-inch, it is calculated that, though the gain from extra width is considerable, it is not proportioned to the further increase.

The different results from working upon firm-bottomed roads and others more or less yielding are shown by experiments which were conducted some years ago in the north of France, where powerful Flemish horses are used. A day's work for such a horse was considered to be drawing one ton at the rate of 2½ miles per hour for 10 hours upon a macadamised road. Horses regularly worked lasted a much shorter time upon these roads than upon the pavements, and wore out in the proportion of 5 years to 6 years; wagons, as 7 to 9 years.

The broad conical or dished wheel probably owes its origin to early legislation upon the subject of the width of tire. The sole of such a wheel was generally considerably rounded in the middle, so that after all the whole weight of the load was borne by a very small part of the road surface. Cylindrical, and not conical, wheels should be the construction—the upright wheel with flat felloe or sole. The periphery of a cylindrical wheel being the same inside as out, it moves along easily and with a rolling motion only. "The conical wheel has an evident tendency to move in a different direction from the line of draught; and the power

to keep it in a straight line is so much power wasted. And as one part of such a wheel is of larger diameter than another, the smaller part of the wheel must slip or grind upon the material of the road, to make up for its loss in speed through being of smaller diameter; so that such wheels not only cause unnecessary draught, but they also grind and wear out the surface of the road. Cylindrical wheels roll the surface, and they have no tendency to travel otherwise than in a straight line."

Road-maintenance.—The stone in time, quite as much as the stitch, saves the nine. Wet weather shows at once the depressions upon the road surface, the defects of the water-tables, and the incapacity of outlets. And it is at such times that the roadman wants to be constantly upon his length of highway. For want of timely attention after the stone is laid on, a road-surface commonly wears in three ruts, whereas the use of the rake would have insured an evenness of traffic. When metal has to be added to fill in these tracks, it is not advisable to fill all three at once. First fill in the horse-track, and after a time the wheel-track on that side of the road nearest the footpath. Lastly, fill in the remaining rut. This method will distribute the traffic much more evenly than would be done by filling all three tracks at the same time, and leaving three more to be formed immediately.

Road-maintenance will depend upon proportioning the supply of materials to the loss from wear and from weathering. A skilful roadman will keep his length in good form and condition with a much less expenditure of time and materials than an unskilful one. Efficiency in maintenance consists in properly timing the necessary supply and in the expeditious removal of what is worn out or displaced—whether in the form of mud, dust, or rolling stones. Materials must also be kept in proper condition as far as

weather will permit—neither too wet, too dry, nor loose. Stone laid on at the end of October or beginning of November will, if properly applied, insure a good road during the next spring and summer. That put on at the end of February or in March, and sometimes even later, will commonly remain loose during the summer, unless the road-surface be lifted or picked up to receive it, and the steam-roller be used.

Where the body of a road contains abundant materials for its proper repair, and these materials have been roughly shot in and imperfectly broken, it will answer to pick up the surface and break up the stone before further adding to the quantity. Picking up to a depth of 4 inches may generally be done at 1*d.* per superficial yard. Aveling's apparatus, with spikes bolted upon plates let into the periphery of the roller, has been used for this purpose with great success But the system is better adapted to the treatment of macadamised roads in towns and populous districts than to country roads. The report from Blackburn says that these spikes upon an Aveling and Porter roller answer admirably, and that the saving in labour on a granite road is immense. The Surveyor of that town states that the employment of the steam-roller and picking-up apparatus has saved £500 per annum.

Farm Roads.—Mr. Prout in his "Profitable Clay Farming" tells us that for facilitating the transport of produce and manure, and for keeping the engines off the cultivated land, he constructed upon his farm at Sawbridgeworth, consisting of 450 acres of heavy clay, about 1 mile of gravel road, and 2 miles of green road, 10 feet wide. The green roads were formed by ploughing and rolling the land (and probably seeding down), and partially coating the surface with the small stones picked off the fields. Mr. Prout gives no figures, but says the hard ways were expensive.

Mr. Bailey Denton, in his excellent prize essay on "Farm Roads on Strong Soils," published in the Journal of the Royal Agricultural Society for 1857, and in his paper on "Farm Roads," read before the London Farmers' Club, gives valuable information on the subject of road-making generally. He estimates that about 2 miles of road will be the average amount of accommodation required on a heavy farm of 500 acres, having the homestead in the centre and public roads on two sides. Their cost he puts down at from £3 to £6 10*s.* per chain with a metalled track of 9 feet, and two water-tables of 4½ feet each. This includes side ditches and under-drainage, but not fencing or footpaths. Upon many such farms the greater portion of the materials required for road-making and maintenance can be found close at hand. But upon others with which I am acquainted every yard of the stone required would have to be carted 2 or 3 miles or upwards. Taking an average price of £5 per chain, or £800 in all for construction, Mr. Bailey Denton reckons interest of money at £5 2*s.* 10*d.* per cent., and asks if such a farm will be permanently improved to the extent of £42 1*s.* 6*d.* per annum, or 1*s.* 8*d.* per acre. And considering the great saving in traction and, consequently, in horses, and that this increased rental will be about equal to the keep of a horse and a half, and that these roads alone may facilitate the getting on of manure by about 28 days, to say nothing of the saving in horse-flesh, harness, and implements, he comes to the conclusion that such an outlay will amply repay the tenant. And this opinion will be endorsed by nearly every intelligent and practical agriculturist in the kingdom. It may be stated generally that good farm-roads well stoned can seldom be made at less than 1*s.* 6*d.* per superficial yard, and good gravel roads at 2*s.* 6*d.*

An estimate of the cost of a good country road based upon the prices paid for materials and labour in a part of

the country with which I am well acquainted is given below. The prices quoted are those actually paid. Such a road I should consider to be equal to the traffic of the present day. The line of country is supposed to be a fairly level one, so that beyond what is wanted for the roadway formation, the drainage, the footpath, water-tables, and small culverts, neither cutting nor embanking would be required.

Estimate for New Road per Chain, as illustrated in Fig. 1.

	£	*s.*	*d.*	£	*s.*	*d.*
Formation—						
Digging ditch on one side, D, 2 ft. 6 in. over, 2 ft. 6 in. deep, 12 in. at bottom, at 1*s.* per rod -	0	4	0			
Digging two drains, C C, 4 ft. deep, laying pipes and refilling, at 7*d.* per rod—8 rods - -	0	4	8			
140 drain pipes, at 24*s.* per 1,000, and cartage at 4*s.* 8*d.* per 1,000	0	4	0½			
Formation of bed and sides -	0	6	0			
	0	18	8½			
Add 12 per cent. for culverts, &c.	0	2	2			
				1	0	10½
Fencing—						
Corrimony wire fence on each side=44 yds., at 7*d.* per yd. -	1	5	8			
Proportion for straining pillars, 1 in every 250 yds., at 32*s.* 6*d.* each - - - - -	0	5	8			
				1	11	4
Metalling—						
16 ft. wide, laid on 16 in. thick, in layers of 7 in., 5 in., and 4 in., before rolling=52⅔ cubic yds. of stone per chain. Cost per yard for digging, breaking, cartage, and spreading=3*s.*— 52⅔ cubic yds., at 3*s.* per yd.				7	16	6
Carried forward -				10	8	8½

	£	s.	d.	£	s.	d.
Brought forward -				10	8	8½
Footpath—						
4 ft. wide, metalled 6 in. thick, will require 4⅘ cubic yds. per chain, at 3s. per yd. - -	0	14	8			
Formation, at 2s. per chain -	0	2	0			
				0	16	8
Total cost per chain - -				£11	5	4½

A good heart of oak fencing in my own locality costs as follows for materials and labour :—

	s.	d.	£	s.	d.
Each length—One post - -	2	3			
Three rails - -	3	9			
Morticing post and ending rails - -	0	7			
Erecting each length -	0	8			
Cost per length -	7	3			
Each side 7⅓ lengths per chain = 14⅔ lengths at 7s. 3d. - - - -			5	6	4

The cost of quicksets, preparing ground and planting, at 6s. 1d. per chain=for two sides 12 2

The actual average cost per yard for stone in the highway districts around me is :—

	s.	d.	
Delivered on roads - -	4	2	per yard
Breaking - - - -	1	1	„
Spreading, raking, &c. (say in forming new road) -	0	2	„
	5	5	

If these figures are adopted the cost per chain for metalling alone, would be roadway and footpath £15 9s. 0d.

In the above estimate nothing is entered for steam-

rolling. The economy of materials will more than counterbalance this, and if it be thought advisable, the bottom stone may be broken to a larger gauge at less than 1*s.* 1*d.* per yard. But this is not recommended. If the metal be good, stone is undoubtedly the best bottoming. Next to this we may reckon the broken bats from bricks which have been thoroughly burnt. And these are at all times preferable to an inferior stone. Burnt ballast, where obtainable, will make a much better bottoming than chalk or any other absorbent material.

Cuttings and Embankments.—When in the construction of a road, excavating and embanking are necessary, an approximate estimate of the cost of these works may be obtained from the data given below. By taking accurate measurements beforehand, the balancing line may be kept in view, so that there may be nothing to go to spoil, no waste materials, and consequently no loss of labour.

The nature of the materials to be removed and the length of run will decide the cost of the work and the distribution of the men employed. If the materials be such as to require pickmen as well as shovellers, the cost will increase in proportion. Thus if three of the former are required for every two of the latter, the expense of filling will be as 5 to 2. A navvy is supposed to fill into a waggon 20 cubic yards of soil per day. Supposing a mass of 30,000 cubic feet has to be removed upon level ground a mean distance of 600 feet by means of barrows holding 1 cubic foot each. A run or relay is the distance one man can run a loaded barrow and return with an empty one while the shoveller is filling a second barrow. The length of this run is 120 feet. If four fillers or shovellers are employed, and the material is such as to require three pickmen to two shovellers, we may estimate the time required and the cost of the work as follows :—

No. of shovellers ..... = 4
No. of pickmen ..... $= 4 \times \frac{3}{2} =$ 6
No. of runs or relays..... $= \frac{600}{120} = 5$
$\therefore$ No. of barrowmen required $= 4 \times 5 = 20$

Total number of men employed..... = 30
$\therefore$ No. of cubic feet removed per day $= 20 \times 27 \times 4 = 2160$
No. of days required to complete the work ..... $= \frac{30,000}{2160} = 13{\cdot}8$
Supposing the wages of the men employed to be 3*s.* per day we have total cost of work ..... $= 13{\cdot}8 \times 30 \times 3 = \frac{1242}{20}$
$= £62\ 2s.$

If the soil has to be raised to a mean height of 50 feet, by means of planks or ramps, a run upon this incline of 1 in 12 will be 80 feet. This will give $7\frac{1}{2}$ runs for each barrow, and will therefore require a corresponding increase in the number of barrowmen, making their total 30, and the cost of the removal of the materials £82 16*s.*

In excavating and embanking, it is necessary to take into consideration the angle of repose or the natural slope of the material to be removed. This, for dry sand, is about 35 degrees; for gravel, 37 degrees; for loose beach or shingle in a dry state, 39 degrees; for ordinary dry earth, 45 degrees or 46 degrees; and for earth in a wet or damp state, 54 degrees. The face of every cutting and embankment should present a less angle than its natural one, according to soil. Thus, for dry earth, sand, or gravel, $2\frac{1}{2}$ horizontal to 1 perpendicular is considered a proper slope. In running out with embankments, such as are required to carry a road over hollows, the best plan is to push forward the two sides of the embankments, leaving the middle to be filled up after a partial settlement has taken place.

To secure the footing or toe of an embankment, it is customary to bench out the foundations, as in Fig. 2, where

the dotted line A B shows the original face of the ground, C E the surface of the new road, and the Figures 1 to 4 benches or steps. D D are covered and open drains, whose positions indicate their uses.*

Wherever it is considered undesirable to give such a slope to the unmoved ground on the sides of a cutting as will insure its stability, a breast-wall (F in Fig. 3) may be built up to the required height, and of a thickness to support the soil. If the stratification dip from the cutting, a thickness of wall just sufficient to prevent disintegration will be sufficient. But if it dip to the cutting, a much greater strength will be required. In both cases greater stability will be obtained by running up the wall before the face of the cutting becomes loosened by exposure.

At the foot of an embankment it is often advisable to build up a retaining, or revetment, wall (C in Fig. 3). A good proportion for this is considered to be a mean thickness of about one-fifth of its entire height. In building walls of this kind, two important matters for consideration are the thrust of the earth at its back and the resistance the wall will offer. The line of rupture shown by A D in Fig. 4 is that which bisects the angle formed by the back of the wall and the line of the natural slope of a soil. As the centre of pressure is at a point about one-third the entire height of the wall, we see the necessity for the greater thickness in its lower part.

The amount of pressure of any soil upon a retaining-wall will depend a great deal upon the method adopted in filling in. By benching out the face of the unmoved ground, and ramming in the added soil in layers with a good inclination *from* the wall, as shown at D in Fig. 3, the thrust will be reduced to a minimum, especially if drainage be perfect. But if the filled-in soil incline in layers *towards* the wall, the thrust will be increased.

* See page 274.

Hitherto the greatest impediment in the way of economical road-maintenance has been the employment of incompetent Surveyors. Evidence given before a Committee of the House of Lords shows that they were not always chosen on account of their technical knowledge of the work. Some were selected because they had failed as farmers: one was appointed because he had a large family: another because he had been regular in his attendance as a member of a church choir: and in another instance the lodgekeeper to a nonconformist cemetery was appointed. We hardly need wonder that these estimable men attained but little eminence in their adopted profession, and that rates increased and roads grew worse. But at the present time, one of the greatest obstacles in the way of improvement is the mismanagement of our highways by boards of guardians acting as highway boards in rural districts, very few members of them having the slightest practical knowledge of road-making. What is wanted is the introduction of a little more method into the madness of the procedure of such bodies.

Calculations, founded upon the ascertained number of collars passing along the roads per day, the proportions of light and heavy loads, the durability of the available road materials, and the average annual consumption for a given period, would furnish data from which competent Surveyors would estimate the requirements of their roads in an ordinary season, and enable them to provide beforehand. Regular coatings along the whole line of road, taken in lengths proportioned to the annual supply, would concentrate the work of the roadmen and result in diminished expenditure.

The great benefits to be derived from the proper supervision of an able and experienced officer are shown by the results of the system adopted in the six counties of South Wales, where the roads are probably as good as in any part of the kingdom, and where the expenses of general superin-

tendence, auditing accounts, preparation of estimates, and annual inspections have been defrayed at a total cost of 25*s.* per mile.

Mr. W. Fowler (Fellow) had great pleasure in proposing a vote of thanks to Mr. Burrows for his valuable Paper, from the perusal of which, when published, he promised himself still more pleasure and advantage. He was not altogether inexperienced in road matters, having been from 25 to 30 years trustee for three different turnpike roads, and having acted as road-surveyor in his own parish for four or five years, while his father and himself, in their professional capacity, had been responsible for the making of several hundred miles of roads.

The result of his experience was that what was principally necessary for a good road was surface-drainage, and, where needed, proper under-drainage. Drainage, in fact, was the do all and be all of a good road. With regard to materials, the best should be got that the country afforded. In some districts suitable material was the greatest difficulty, and it often happened that it was not to be had for love or money, and, as a natural consequence, the roads were bad, and must remain so. The old-fashioned method of mending a road was to fill up the rut when formed, and leave another rut by the side of it—a totally wrong way to go to work. The true way when substantial reparation was needed was to have the surface raked properly forward and pecked up where necessary, so as, in fact, to make a new road of it.

It did not seem to him desirable, and it was quite foreign to his experience and notions, to put the ditch on the outside of the fence, as recommended by Mr. Burrows. It involved loss of land, and, of course, a double ditch, as there must be a ditch on the other side also.

For bottoming, there was, he thought, no better material than ashes or cinders. He lived not very far from that magnificent triumph of art and skill, Mr. TELFORD'S Holyhead Road, and very well remembered that in his younger days his father pointed out to him the peculiar way in which the surface was always kept in repair. Instead of covering large portions of road with material at one time, wherever after a shower of rain the water would lie in little shallow pans, the surface was slightly scarified, and small quantities of finely broken stone were sprinkled over the hollow places, and the traffic being large, it was wonderful how soon the material worked in, and thus an even and uniform surface was always maintained.

He might mention a little circumstance which was not without interest with regard to the old Roman road which passed near the place where he lived. His father formerly occupied a farm abutting upon it, and he remembered that in a meadow belonging to the farm there were several considerable protrusions of the surface, grass-covered like the rest, which he had the curiosity to examine. On opening them he found a great mass of finely-broken stones, no doubt left there by the Romans. These stones had since been removed and used for the roads. It was well known that the Romans mended their roads with broken stones, and it was curious that the method had entirely disappeared until MCADAM revived it.

Mr. A. M. DUNLOP (Fellow), in seconding the vote of thanks to Mr. BURROWS, observed that the Paper was one which was too full of detail to be discussed without a careful perusal. He could, however, bear out almost everything that Mr. BURROWS had said with regard to the roads in Kent and in South Wales. The author might have extended his praises to North Wales also, for everybody who

had travelled in that country knew that there was no better road than the Holyhead Road. In fact, there were no better roads than the Welsh roads generally. The author had not overstated the case with regard to the incompetence of the persons formerly employed as road-surveyors. Upwards of 20 years ago, he (Mr. Dunlop) was guardian of a large district in Cheshire. He did not know what the antecedents of the Surveyor of the district might have been, but this he well remembered, that he was the biggest fool he ever came across; yet this man had the charge of a large length of roads. He well recollected that Sir Richard Cross, two other gentlemen, and himself had been deputed to inquire into the state of the roads in Cheshire, with the result that many of the old boulder-stone roads were, on their recommendation, converted into macadamised roads.

This subject had already been practically called attention to by Members of the Institution and many eminent Surveyors throughout the country, and the result could hardly fail to be that guardians and other authorities would learn that it was to their interest, as well as to that of ratepayers, to employ experienced persons to superintend the maintenance of the roads.

Looking at the question from a land-agent's point of view, the first thing required for the development of an estate was good roads. Without such roads the horses were injured and the carts and implements knocked to pieces, thus reducing the profit and making a considerable difference in value in the eyes of Surveyors.

He agreed with Mr. Fowler as to the importance of drainage; but he did not concur in his objection to putting the ditch outside the fence. He believed that many accidents would be avoided if Mr. Burrows' plan were adopted.

Mr. R. F. Grantham (Associate) agreed with Mr. Fowler that it was most important that roads should be properly drained. He held that, unless the road had a good solid foundation of 9 or 12 inches, no amount of care in maintaining the surface would make the road sound and durable. Bushes were generally objected to, but he thought without much reason, for he had found that a thin coating of them, with a quantity of material thrown in, formed an excellent substratum, and kept the road dry. The author had given an estimate of 1*s.* 6*d.* for a farm road and 2*s.* 6*d.* per square yard for making a country road. He found from his own experience that the cost of roads of the kind varied from about 1*s.* 6*d.* to 2*s.* 3*d.* per square yard. The cost of roads on building estates in the suburbs of London was of course much greater. A road in districts on the South side of London would cost for formation, metalling, sewer, and surface water pipes and fencing 4*s.* 6*d.* to 5*s.* a square yard, including sometimes the removal of a large quantity of earth. North of London it would cost more—from 5*s.* to 7*s.* per square yard, the whole width being 40 feet, including the footpaths in the superficial measure. Mr. Denton's estimate, quoted by Mr. Burrows, of £3 a chain for farm roads, struck him as a low figure, and he did not think a road could be made for it. He thought £6 the lowest figure for a solid and substantial road 10 feet wide.

He did not agree with Mr. Fowler that inasmuch as in clay countries the roads had always been bad, they must remain so; for it was always possible to burn ballast in a clay country, and a good foundation could thus be got which with a slight layer of stone or other material, would form an excellent road.

Mr. Burrows, in reply, said that he was exceedingly, obliged to the Members for the vote of thanks, and was still

further gratified to find that his views had met with the approval of those who had taken part in the discussion. He had spoken feelingly in advocating the putting of the ditches outside the fences, for it was his unpleasant duty to drive over miles of road almost every day of his life where the ditches on each side were so deep that a tall man standing in one ditch would be unable to see the head of another tall man standing in the other ditch, while the roadway itself was not more than 12 or 13 feet wide. Over those same roads three or four traction-engines sometimes passed daily, and it was with the greatest difficulty he managed to get over the ground, and yet avoid the ditches.

In Romney Marsh the case was even worse. There the sewers and ditches were sometimes 12 or 14 feet wide on one side of the road, and 5 or 6 feet on the other; and those who, like himself, had to drive and ride along the narrow roads of that district would no doubt share his preference for a ditch on the field side. Another consideration was that if the hedge was on the field side of the ditch, and under the control of the occupier of the land, he likewise might cut his ditch close up to the fence, and thus, with the Surveyor's ditch on the one side and the farmer's ditch on the other, the hedge would be placed upon a mound, and the roots of the quicksets would be cut off from that supply of nourishment which was essential to vigorous growth, and which they could obtain when they were allowed to spread freely into the adjacent soil. No doubt it was sometimes a matter of necessity to put the ditch on the road side; but he retained the opinion that, wherever it was possible, the ditch should be put on the field side. He might repeat what he had already said, that his Paper was intended mainly for the younger Members of the Institution, and he hoped it would be of some little use to them.

He endorsed what Mr. Dunlop had said with regard to

the roads in North and South Wales. For the greater part of his life he had lived within easy reach of Wales and had travelled over most of the main roads, and could testify to their excellence.

The President said that Mr. Fowler did not supply any data for judging whether he owed his election as road-surveyor to his qualification as a choirman or a cemetery-keeper, but it might be taken for granted that the choice of his constituents was fully justified on whatever grounds it was made.

It was very gratifying to him (The President) to find that the sections and general methods of road-making, which he had been working upon for 40 years and upwards, were, for the most part, nearly identical with those suggested by Mr. Burrows.

By way of samples of his practice he produced, for the information of their younger professional brethren, sections and specifications* of four typical cases—two where stone metalling was readily available for the foundations, one where burned clay ballast was used, and another in which it was necessary to use chalk. One related to about $4\frac{1}{2}$ miles of new public road, in a recently-inclosed parish, on the lower and great oolite, where the conditions were extremely favourable, very fair metal being available at several points close to the lines of road. The first part, 70 chains long, was made by contractors, but the residue under the superintendence of a working foreman appointed by him (The President). The first layer consisted of stone broken to go through a 4-inch ring, finished 12 inches in thickness, after it had been thoroughly consolidated, which was accomplished, according to his invariable rule, by beginning the tipping on to the formation at the point nearest to the

* See Appendix.

stone-pit, so that each successive load was carted over those previously deposited.

The upper layer was selected hard local stone broken to go through a 2-inch ring, and was finished 5 inches in thickness. The formation throughout was 30 feet in width; out of the total length of 369 chains, 71 chains were metalled 12 feet wide in the centre; 71 chains, 14 feet; 126 chains, 15 feet; and the remainder, 101 chains, 16 feet.

The total cost, including the necessary culverts, was £1,720, or £4 13*s.* 3*d.* per chain. They were excellent roads when certified by the magistrates, and turned over to the parish surveyors; how they had fared since he had never dared to inquire.

It was fair to mention that some very practical friends of his, among others Mr. Bryan Wood and Mr. Herbert Smith, follow a different method from his, with regard to the bottom layer in making roads where the local stone to be used is laminated, such as the limestones of the lias, or oolite formation. They form the first layer by "pitching" or arranging the stones edgewise. He was bound to say that he had seen very good roads made on this principle; nevertheless he adhered to his own view (though he could not take up the time of the Meeting by giving his full reasons for it), and was glad to have Mr. Burrows as an ally.

Curiously enough, the two friends he had named in their capacity of valuers for an inclosure in adjacent parishes to that which he had before referred to, were making roads on their principle at the same time that his were in progress; and as the general conditions were almost precisely similar, it might be interesting to compare the results as to first cost. With regard to the future condition of the roads, everything depended on the parish officers, as they were, unfortunately, not within a highway board district.

To parody a well-known line,

"Whate'er is worst, administered is worst,"

and those who have been much concerned with the making of farm or other roads have all suffered more or less acutely from the neglect of those on whom the future maintenance devolved.

One of his specifications and sections for the diversion of a turnpike road through a residential estate was not carried out, but the estimated cost was £8 per chain; it was chiefly adduced for the purpose of showing that he fully agreed with Mr. Burrows as to the importance of rolling, though steam-rollers were not available in that district at the time the work was projected.

For ordinary farm roads he used a modification of the first-named specification and section, making the formation from 20 to 25 feet wide, and the metalling from 10 to 12, but he gave specimens of specifications for a farm road with a burned ballast foundation which cost £5 9*s.* per chain; one made in Bedfordshire, with a foundation of "Hullocks" or clunch (*i.e.* hard chalk), to a similar specification and section, cost £6 10*s.* per chain, the gravel of the upper layer being carted about six miles.

He did not share Mr. Burrows' dislike to chalk as a foundation, provided always the upper layer of broken stone, flints, or gravel was put on before the winter.

The least touch of frost was fatal to chalk, and in his earlier, and too-confiding days, he had thrown away £200 on a farm road in Wilts by trusting to the tenants undertaking to put the upper layer of flints on to the first layer of chalk before the frost set in; the small part covered was a perfectly good road, the remainder a mass of soft mud.

He was not in favour of the general use of faggots

under roads; but in the cases of swampy places, where it was necessary to put on the metal before they had become consolidated by drainage, always an essential element to the success of road-making on wet ground, good results were obtained by applying closely-packed blackthorn facines, called in the midlands "kids," and in the south "bavins."

Mr. Burrows' advice, that as little excavation as possible should be used in the formation of roads to receive the metal, was quite in accordance with his views.

He would venture to give advice which his younger professional brethren might find useful on another point. If they had occasion to erect buildings at some distance from a main road, and connect it therewith by a new road, they should not commence the latter until the building contractors were clear off the ground. The tenant should leave them a strip of land uncultivated, 40 or 50 feet wide, along which they should find access to their work in the best way they could. Builders' traffic on a newly-formed road was almost necessarily fatal to it.

Adverting to another subject, Mr. Fowler's remarks, as to the Roman road in his neighbourhood, were extremely interesting to him (The President). He had long had a desire to obtain a section of a Roman road, and a few days since, feeling that it would be of general interest in connection with Mr. Burrows' Paper, he had one made, which he now produced.*

The road in question was the "Ermine Street," one of several which converged on the city of Lincoln, traversing that part of the table-land of the upper oolite range, formerly and still known as Lincoln Heath, now, or, to speak more accurately, till lately, a highly-cultivated tract of arable land. It was not one of their main roads, like

* See Appendix.

the "Foss Road" and "Watling Street," which intersected each other at High Cross, in Leicestershire—a place, by the way, which was still accounted by the neighbouring rustics "the middle of England," no doubt from the fact of its being the intersection of the main Roman roads (which were, probably, also British roads) from the south-west to the north-east, and the south-east to the north-west respectively.

This Ermine Street was locally known as the "High Dyke," and its normal condition was a raised embankment of 3 or 4 feet of varying widths.

He remembered perfectly being told by a Lincolnshire rustic, 50 years ago, that it was "thrown up by the devil as fast as a horse could gallop," and the belief was commonly held until the era of Board Schools set in—a curious illustration of the common tendency to attribute all mysterious earthworks to diabolic agency, of which many other examples would occur to the Members.

As to the greater part of its length, the embankment has been obliterated, but at the point where he recently had it opened, in the parish of Harmston, it has been practically disused for wheel traffic for so many centuries that eight or ten inches of vegetable soil has accumulated upon it.

The section of the present embankment was somewhat perplexing: on the outside western portion is the Roman road proper, consisting, as will be seen from the diagram, of a mass of local stone of the mean width of about fourteen feet, and about two feet in thickness; the centre part is precisely like the "road scrapings" from the present neighbouring public roads, though hardened by time; as to the eastern part, which is throughout sandy loam without any trace of stone, he could form no satisfactory theory.

Pursuing the subject of Roman roads, he might perhaps be permitted to digress for a few minutes from the subject

of the present Paper, and pursue a topic suggested by Mr. Fowler's remark on the Roman road before referred to, taking it in connection with the recent Paper on the "Agrimensores."

Adjoining the "High Dyke," nine miles south of the place at which the section was taken, at a point where it is intersected by another road, is "Byard's Leap," a well-known meet of the Blankney Hounds. What one sees at "Byard's Leap" are two groups of holes, adjoining the Roman road, each group consisting of four, and the two groups being, as nearly as he could remember, about forty yards apart. They had been kept constantly cleared out from time immemorial, and an enthusiastic neighbouring landowner had recently had a huge iron horseshoe permanently fixed in each of the eight holes; the current tradition being, that once upon a time a blind horse called Byard, in the spasm of terror produced by an attack from a witch who frequented those parts, cleared at one bound the interval between the two groups of holes, supposed to indicate respectively his starting and landing places. Personally he (The President) had little doubt that these holes are ancient boundary marks of some kind, probably agrimensorial.

Again, his attention was attracted, six or eight years since, by a rough cylindrical column of sandstone, about 4 feet in length, with a diameter of about 15 inches, which was dug up in trenching the ground for a new plantation adjoining another Roman road—the Foss. Since the subject of the Agrimensores had been under discussion he had re-examined the stone, and was of opinion that it also was one of their boundary marks, the nearest point from which the kind of stone from which it is fashioned could have been obtained was eight or nine miles distant from the place where it was found.

Apologising for this digression, which was only intended to suggest to the Members the interest they might derive from observations and inquiries in the neighbourhood of Roman roads, he would conclude his remarks, and fulfil the pleasant duty of asking the Meeting to agree to the vote of thanks to Mr. Burrows, which had been proposed and seconded.

A Member having suggested that The President's specifications should be printed, he said they were at the service of the Institution.

The vote of thanks having been put and carried unanimously, the Meeting adjourned.

APPENDIX.

I.

SPECIFICATION *for forming, draining, metalling, with burnt-clay ballast and gravel, and completing a Farm Road in Bedfordshire, according to the section.*

1.—FORMATION.—Road to be formed as shown on section, 22 feet wide, 12 feet in width in the centre, to be formed 12 inches in depth, to receive the ballast and gravel hereafter referred to, all existing ridges and furrows or other irregularities of surface to be levelled, and both the sides and centre of the formation, and every part thereof, to be well trodden or rammed so as to be perfectly firm and solid as well as regular on the surface.

2.—DRAINING.—An under-drain to be cut with a regular fall 3 feet 6 inches deep, or as nearly that depth as the fall will permit along both sides of the formation, to be laid with 2-inch drain pipes and furnished with proper out-falls into the brook, and such other channels as may be determined by the agents.

3.—EXCAVATING FOR CLAY AND GRAVEL.—The clay to be excavated for burning into ballast, as hereinafter mentioned, shall be taken from some point adjoining the roadway in the field No. 1, the turf and surface soil shall be removed and reserved for replacing on the completion of the excavation, the bottom shall be levelled, the sides sloped to a batter of not less than one in six, the soil shall be equally spread over it, and the turf replaced in a workmanlike manner, the same provisions, so far as they apply, shall be observed with respect to any excavations for gravel, such last-named excavations to be made at such place or places as may be approved by the agents.

4.—BALLAST.—No ballast shall be used on the road but such as is thoroughly well burned into proper road metal; all such as may be deficient in hardness, whether from the inferiority of the clay used or imperfection in the burning, will be rejected.

5.—On the completion of the burning of the ballast, and of the formation and draining to the satisfaction of the agents or the inspector appointed by them, the laying on of the ballast shall be commenced at the point nearest the ballast heap, and the successive loads required for completing the ballasting shall be carted over those previously laid, the ballasting to be completed throughout to the full and regular depth of 8 inches at the sides and 10 inches in the centre.

6.—GRAVEL.—On the completion of the ballasting, the whole of it to be covered to a uniform depth of 4 inches with gravel, free from all mixture of sand or dirt, to insure which it must, if necessary, be screened.

7.—The Contractor to provide all plant, coals, labour, drain pipes, and every matter and thing required for the completion of the work, but shall not be required to make any payment for the clay or gravel supplied from the estate.

8.—The Contractor will be allowed, on the satisfactory completion of the ballasting according to the above conditions, to draw on account three-fourths of the value of the work, according to the judgment of the agents, and the whole amount due will be paid to him on their certifying the due completion of the work in accordance with the plan and specification.

9.—The work to be wholly completed, weather permitting, within four-and-a-half (4½) months from the date of the contract, under a penalty of 10*s.* per day for any delay beyond such date.

NOTE.—Length of road, 34 chains; cost, £185, = £5 9*s.* per chain.

II.

A farm road, 44 chains in length, in Bedfordshire, made in 1874 to similar specifications and section, but with 12-inch depth of hard chalk substituted for the ballast, and covered with gravel carted from a distance of 6 miles, cost £286, or £6 10*s.* per chain.

III.

SPECIFICATION *for forming, metalling, and completing a new Public Carriage Road in Rutland.*

NOTE.—The line now staked out on the ground shows the centre of the proposed road. The trees, thorns, and bushes now growing on part of the intended site of the road will be grubbed and cleared away for a space of 20 feet on each side of the said centre line before the site of the road is delivered to the Contractors.

1.—FORMATION.—The road to be formed throughout for the width of 30 feet, as shown by red colour on the cross-section and in accordance with the curve and dimensions therein figured, all the existing ridges and furrows, and inequalities of surface to be levelled, and both the sides and centre of the formation, including every part thereof, to be well trodden or rammed,

so as to be perfectly firm and solid as well as regular on the surface.

2.—EXCAVATING.—The stone for metalling the 60 chains of road nearest K—— is to be excavated near the trial-hole at the point where the road crosses the south-eastern corner of the Fox Covert, or from some other convenient place or places adjacent to the line of road. That for the 10 chains next the Turnpike is to be taken from or near to the present parish stone-pit adjacent to the turnpike.

3.—The whole of the surface-soil and the bed of stone selected by the Valuer for the upper course of metal shall be placed by the side of the pit in convenient heaps, separate from each other. After the excavation has been completed, the refuse and spoil from the road-formation, if any, shall be filled in to it to a uniform surface, and the surface-soil replaced over, equally and properly levelled.

4.—METALLING.—The first layer of metal shall be, on its completion, of the full depth of 12 inches at the sides, and rising towards the centre, as shown on the annexed section by light brown colour. It shall be taken from the beds approved by the Valuer for the purpose, shall be free from dirt and rubbish, and so broken as to pass through a 4-inch ring.

5.—The laying on of the said first layer of metal shall be commenced at the point nearest the pit, and the successive loads required for completing it shall be carted over those previously laid.

6.—The upper layer shall consist of the stones before referred to, selected by the Valuer for the purpose, broken to go through a 2-inch ring, free from all dirt and refuse. No part of the upper layer shall be put on until the first layer has been thoroughly consolidated and completed in accordance with paragraphs 4 and 5 above written.

7.—The laying on of the metal shall in this case be begun at the end furthest from the pit, and worked backwards towards the pit; and shall be finished to the full depth of 5 inches, as shown in the section by dark brown colour.

8.—All plant, materials, and labour of every kind to be provided by the Contractor.

9.—The Valuer will from time to time make advances on account of the work to within 25 per cent. of the actual value, according to his judgment of the work done, and the whole amount due to the Contractor will be paid on the road being com-

pleted in accordance with the specification, and certified by two Justices of the Peace, according to the Act.

10.—The works to be completed within two months from the date of the contract, under a penalty of 40*s.* per day.

IV.

SPECIFICATION *for forming, metalling, and completing a New Public Road and diversion of present Public Road, in Leicestershire (being a total length of* 54 *chains or thereabouts).*

1.—The line staked out on the ground shows the centre of the proposed road, all trees, thorns, bushes, and hedges now growing on the site of proposed road to be grubbed and cleared away.

2.—The road is to be formed throughout to the level of the stakes and metalled to a width of 18 feet, as shown on the annexed cross-section, and in accordance with the curve and dimensions therein figured, all the existing ridges and furrows and other inequalities of surface to be levelled, and sides and centre of the formation thereof to be well punned, rolled, and trodden, so as to be perfectly firm and solid.

3.—METALLING, &c.—The first layer of metal to be of the full depth of 12 inches, free from dirt or rubbish, and of approved stone, and so broken as to pass through a 4-inch ring.

4.—The laying on of the first layer of metal shall be commenced and tipped from either point A or B, and continued the whole length throughout, every successive load to be carted over those previously laid.

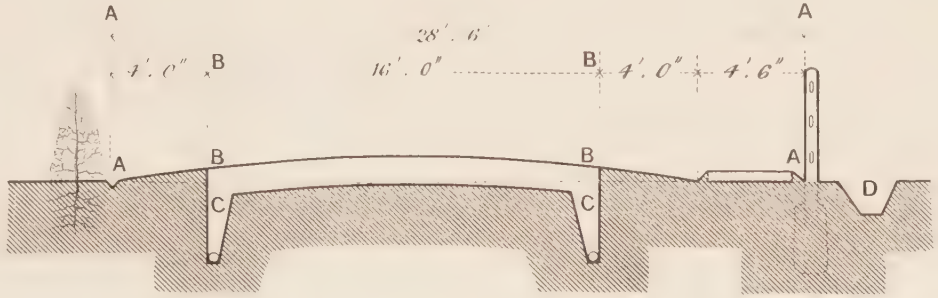
5.—The upper layer to consist of Mount Sorrel granite, broken to go through a 2-inch ring, free from dirt or rubbish, and to be not less than 4 inches thick.

6.—No part of the upper layer to be put on until the first has been thoroughly consolidated and completed in accordance with the preceding paragraphs.

7.—Upon the completion of each layer of the metalling the whole to have one entire day's rolling of ten hours with a 2-ton roller.

Fig. 1.

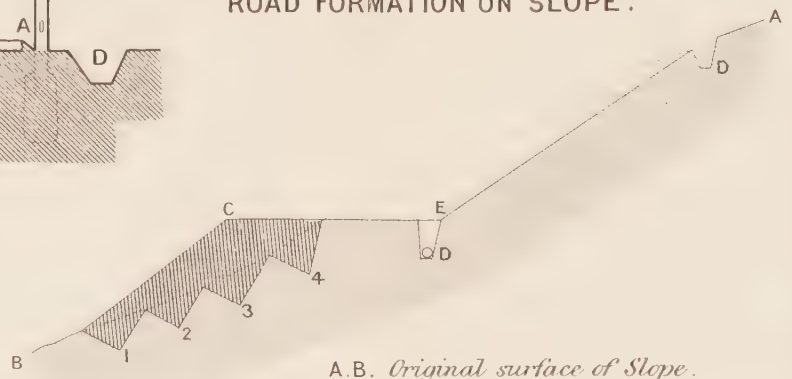
SECTION OF ROAD.



A.A. *Width of Formation.* B.B. *Metalled Roadway.*
C.C. *Underdrainage.* D. *Side Ditch.*

Fig. 2.

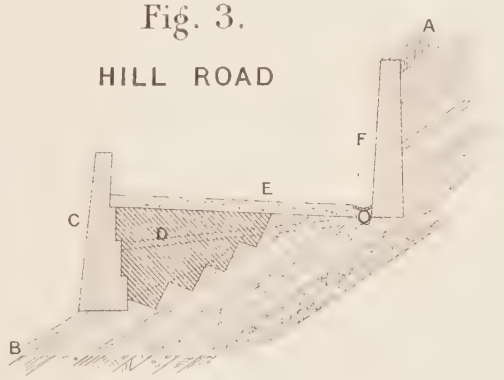
ROAD FORMATION ON SLOPE.



A.B. *Original surface of Slope.*
C.E. *Road Surface.*
D.D. *Drain & Ditch.*
1,2,3,4, *Steps or Benches.*

Fig. 3.

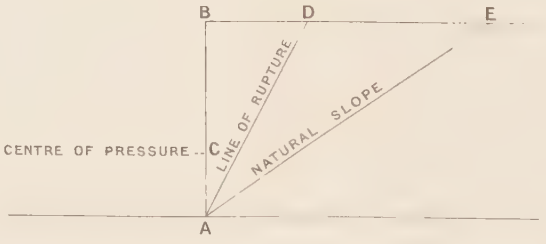
HILL ROAD



A.E.B. *Original surface of Slope.* C. *Retaining Wall.*
D *Embankment.* F. *Breast Wall.*

Fig. 4.

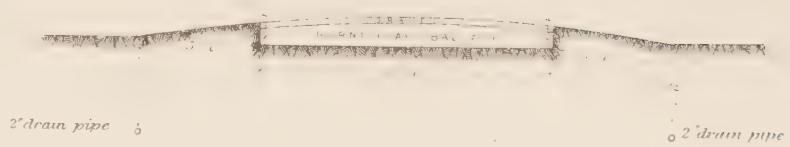
PRESSURE OF EMBANKMENT



C. F. Kell Lith. 8 Castle St. Holborn London E.C.

CROSS SECTION OF ROAD,

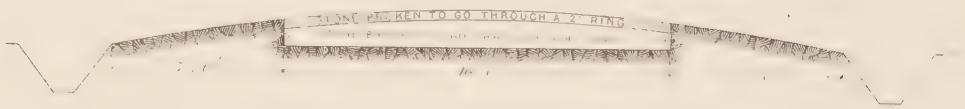
REFERRED TO IN SPECIFICATION I.



SCALE 8 FEET TO AN INCH

CROSS SECTION OF PROPOSED NEW ROADS,

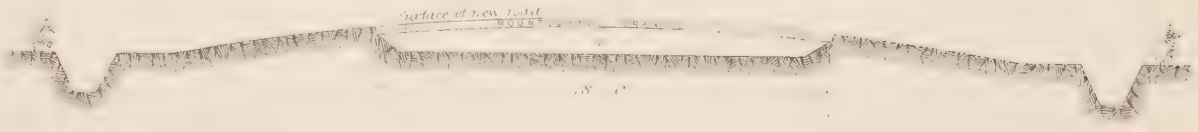
REFERRED TO IN SPECIFICATION III.



SCALE 8 FEET TO AN INCH.

CROSS SECTION OF PROPOSED NEW ROAD,

REFERRED TO IN SPECIFICATION IV.



SCALE 8 FEET TO AN INCH

F. Kell Lith 3 Chancle St Holborn London E.C.

Paper 121
No. 208

ON THE

ANCIENT TERMS APPLICABLE TO THE MEASUREMENT OF LAND.

By W. FOWLER (Fellow).

Read at the Ordinary General Meeting of The Surveyors' Institution, *March 24th*, 1884.

THE PRESIDENT (MR. T. SMITH WOOLLEY) IN THE CHAIR.

In venturing to offer the few following remarks, I wish to disclaim at the outset any pretension to a large amount of special knowledge of the subject; but, having had my attention accidentally drawn to it, the idea occurred to me that it might form an interesting subject of discussion, and a pleasant change from the more serious matters which frequently occupy our attention, and I am not without hope of deriving at least as much information as I may be able to impart.

The measurement of land is usually computed in acres, roods, and perches.

The statute acre, which may, I think, be considered the standard unit of land measurement, contains, as every one knows, 4,840 square yards; but how and why it happens to contain that particular number of yards, and why it is called "statute acre," is not, I believe, quite so universally known.

In a collection of Ancient Statutes, printed and published in 1556 by Richard Tottell, appears an enactment made

in the 33rd year of EDWARD I., Anno Domini 1305, entitled "Statutum de Admensuratione Terræ," by which it is provided, that—

"When an acre of land contains 10 perches in length, "then it shall contain in breadth 16 perches."

"When it contains 11 perches in length, then it shall "contain in breadth 14 perches, half a perch, and three "quarters of a foot," and so on in detail up to 45 perches in length, "then it shall contain in breadth 3 perches, half a "perch, half a foot, and 3 inches."

Some of these measurements are not mathematically accurate, but they approximate very closely to the truth.

In the Town Clerk's office at the Guildhall, London, there are, or were, several ancient manuscripts, among others, one called "Liber Horn," compiled about the year 1311, in the reign of EDWARD II., which contains the same statute, though somewhat differently worded, and the description of the dimensions not agreeing exactly with those given in the statute as printed in TOTTELL'S work.

The calculations are also extended up to 80 perches in length and 2 in breadth.

The "Liber Horn" goes on say:—"And be it remembered "that the iron yard of our Lord the King containeth 3 feet "and no more, and a foot ought to contain 12 inches by the "right measure of this yard measured, *to wit*, the 36th part "of this yard, rightly measured, maketh 1 inch, neither "more nor less, and 5 yards and a half make a perch, that "is, 16 feet and a half, measured by the aforesaid yard of "our Lord the King."

In the 2nd part of TOTTELL'S "Ancient Statutes," 1556, of which unfortunately I have not a copy, appears in Latin "Compositio Ulnarum et Perticarum," and the same is to be found in the Cottonian Manuscripts in the British Museum.

The following translation is from RASTALL's "Collection of Statutes," published in 1603 :—

"It is ordained that 3 grains of barley dry and round "do make an inch, 12 inches make 1 foot, 3 feet make 1 "yard, 5 yards and a half make a perch, and 40 perches in "length and 4 in breadth make an acre."

We see thus how the term "statute acre" originated, and how it happens to contain 4,840 square yards of land.

The word "acre" itself is, of course, derived from the Latin "ager," the original meaning of which is simply a field, and not any definite area of land.

The Act 24th HENRY VIII., c. 4, concerning the sowing of flax, gives the measurement of an acre as 8 score perches.

The rood of land, called "Roda terræ," is given in 5th ELIZABETH, c. 5, as the fourth part of an acre, but I do not find "roda" in any Latin dictionary, the Latin form of the word being doubtless coined for the occasion ; nor do I find the word "rood" in any English dictionary, except as a different orthography for rod, pole, or perch.

With regard to the Scotch acre I have had some difficulty in arriving at a satisfactory conclusion.

COWELL's "Law Dictionary," published originally in 1607, and reprinted in 1658, quoting from an older authority, SKENE, "De Significatione Verborum," says :—

"Three barleycorns without tails, set together in length, "make one inch, of the which corns one should be taken off "the middle ridge, another off the side of the ridge, and "one off the furrow.

"Twelve inches make a foot of measure, three feet and "an inch make a Scotch ell or eln, six ells make one fall, "which is the common lineal measure.

"Six elns long and six broad make a square and super-"ficial fall of land measure.

"And it is to be understood that one rod, one raip, one "lineal fall of measure, are all one, each of them containing "six elns in length.

"Howbeit, a rod is a staff or pole of wood, a raip is "made of tow or hemp, and so much land as falleth under "the rod or raip at once is called a *fall* of measure, because "it is the measure of the line or length only, like as the "superficial fall is the measure of length and breadth.

"Item, ten falls in length and four in breadth make a "rood, four roods make an acre. This is the measure of "Scotland."

According to this standard the Scotch acre contains 6,084 square yards and 4 feet, or A1. 1. $1\frac{1}{5}$ English measure.

To measure Scotch acres the chain should be 74 feet long, and 10 square chains would be precisely an acre containing 6,084 square yards and 4 feet.

The "Encyclopedia Britannica" agrees with Cowell's Dictionary, in stating that the Scotch ell is 3 feet 1 inch, which would make the square ell contain 9 feet and 73 inches, 36 square ells being 1 square fall or pole, 40 poles 1 rood, and 4 roods 1 Scotch acre of 6,084 square yards and 4 feet.

In another place, however, the "Encyclopedia Britannica" gives the Scotch ell at $37\frac{2}{10}$ inches, and Webster's Dictionary also gives the same measure.

This would make the acre contain 6,150 yards and 4 feet or A1. 1. $3\frac{1}{3}$ perches nearly, English measure, which agrees with the measurement of a Scotch acre given in Chambers's "Encyclopedia" and other authorities.

I have within the last few days been favoured by my friend Mr. Penfold with the perusal of a letter from Mr. Chisholm, late Warden of the Standards and author of a very interesting little book on "Weighing and Measuring," published in 1877 by Macmillan & Co.

Mr. Chisholm states that the Scotch ell was formerly considered to be 37 inches in length, but it has been more recently ascertained to measure 37·0958 English inches.

The Standard ell, or Elwand as it is called, is kept in the Council Chamber at Edinburgh.

Mr. Morton, however, in his "Cyclopedia of Agriculture," states the Scotch standard acre to contain 6,104 square yards, which agrees with none of the authorities I have quoted, but as nearly as possible splits the difference between them.

On the whole, therefore, the exact measurement of the Scotch acre appears to be somewhat doubtful. This, however, is of little moment, as the Act of Union in 1707 provided that thenceforth the English standard weights and measures only should be used in Scotland.

The English ell, it may be noticed, is 3 feet 9 inches, and the Flemish ell 2 feet 3 inches.

The Irish acre is said to contain 7,840½ square yards, equal to A1. 2. 19$\frac{1}{10}$ of English measure, but the English standard weights and measures were long since legalised as the weights and measures of Ireland.

Mr. Morton in his "Cyclopedia of Agriculture" also gives the area of numerous so-called local acres, among which may be instanced:—

Leicester, 2,308¾ yards; Hereford, 3,266⅔ yards; Wiltshire, 3,630 yards; Devonshire, 4,000 yards; Westmoreland, 6,760 yards; Lancashire, 9,000 yards; Cheshire, and Staffordshire, 10,240 yards.

I can only say that in a long experience I never met with the smallest traces of any such acres having ever been used, and I very much doubt if any acre is, or ever was, known or recognised in any part of England, at least since Feudal times, except the statute acre of 4,840 square yards.

It is true enough that certain different local measures

may be recognised in various counties for the purpose of measuring work or other kindred purposes, but not, I think, in any case for the measuring of lands, farms, or estates.

In the midland counties, for instance, a rod or perch of fencing or draining is 8 lineal yards, and a rod or perch of digging is 8 yards square, or 64 yards, and it is known to every Surveyor and to most labourers that $75\frac{1}{2}$ such rods or perches go to the acre, but I do not believe it ever occurred to the mind of any person that 40 square perches of 64 yards each make a rood, and 4 such roods an acre of 10,240 square yards.

Yet this is evidently the way that the so-called Staffordshire and Cheshire acre is calculated.

I can only say for myself that, although I had heard of such a thing as a Cheshire acre, until I saw Mr. MORTON'S book I had never heard or read of a Staffordshire acre containing 10,240 square yards.

I do not pretend to know whether the widely-varying acres credited to other counties are equally apocryphal, but I strongly suspect so.

In an appendix to "The Complete Surveyor" by WILLIAM LEYBOURN, published in 1674, which appendix is entitled "The Legal Part of Surveying," by THOMAS MANLEY, of the Middle Temple, Esquire, it is stated:—

"Roods and acres differ many times according to the "custom or usage of several places, yet, notwithstanding "these several varieties, the Surveyor must make his com- "putation by the standard, although perhaps it may be "that the lords' demesnes in ancient surveys have been "measured by the 20-foot pole called 'mensura major,' and "the customary land by the pole of 16 foot and a half, "called 'mensura minor.'"

So the French arpent or acre, containing 100 square poles, is laid out in the measuring of woods by the 22-foot

pole, which is called the "King's arpent," yet their other lands are computed by the pole of 20, 19, or 18 feet.

It seems certain that no acre, except the statute acre, has been known or recognised since what are called the Feudal times, and if any such acres were ever used in the measurement of land, it must have been many centuries ago, and merely in accordance with the customs of particular manors, and not as prevailing generally throughout the several counties to which they have come to be accredited as county measures.

If it were otherwise, it seems incredible that no better records should remain of their former existence.

I should much like to know if any living man has seen the plan of an estate computed in acres, roods, and perches other than the statute acre of the present day.

COWELL's Dictionary states that the Staffordshire rod or pole was 24 feet, in the forest of Sherwood 25 feet, in the forest of Cannock 25 feet, in the forest of Clarendon 20 feet.

In Herefordshire a perch of walling was 16½ feet, and a perch of ditching 21 feet.

It is plain that these are all local standards for the measurement of labourers' work, and possibly of labourers' allotments, and have no reference whatever to the measurement of estates; and it is, I think, certain that they are a remnant of old forest customs, varying greatly in different manors.

According to SPELMAN, the word "arrentation," mentioned in 34 EDWARD I., c. 6, signifies licensing an owner of lands in the forest to enclose them with a low hedge and little ditch, for a yearly rental, and according to the ancient register of an abbey in Nottinghamshire, the forest foot, "pes forestæ," commonly used "in arrentatione vastorum," was carved upon the walls of divers churches, and contained

18 inches, "octo decem pollices," and in different forests the customary perch contained 20, 21, and 24 such feet.

The word "pollex" originally signifies the thumb, but metaphorically it represents an inch.

Sir HENRY SPELMAN, in his Archæological Glossary, says, "Pollex should be measured to the root of the nail, "and ought to be of the length of three good barleycorns "without tails."

"Arpen," or "arpent," is an old French term signifying an acre, and according to the old French account mentioned in Domesday Book, 100 perches make an arpent, 18 feet a perch, 12 inches a foot, and a demi-arpent, also called "Jugum terræ," is said to contain 50 perches, or half a plough land.

The yard of lineal measure, 3 feet in length, in Latin "virga," is said in Sir RICHARD BAKER's Chronicle to have been ordained by HENRY III. from the length of his own arm.

If so, it is no wonder that his son should be known as "Longshanks."

In Magna Charta, 9th HENRY III., c. 9, it was enacted that there should be but one scantling of weights and measures through the whole realm, which was afterwards confirmed by 14th EDWARD III., c. 12, and other statutes.

The 17th CHARLES I., c. 29, says, "from henceforth there "shall be one weight, one measure, and one yard, according "to the standard of the Exchequer throughout the whole "realm."

This standard, "virga ferrea," was formerly of iron, but afterwards of brass, and the present standard yard is, I believe, constructed of BAILEY's metal—a compound of copper, tin, and zinc.

The yard of land, "virgata terræ," appears to have signified a different quantity in various places,—at Wim-

bledon, in Surrey, only 15 acres; in some parts, 20; in some, 24; and in others, 30 and 40 acres.

An old manuscript in the abbey of Malmesbury says a yard of land contains 24 acres, and 4 yards make one hide, and 5 hides make a knight's fee.

This would make the hide of land contain 96 acres, and a knight's fee would be equal to 480 acres.

The "hyde of land" appears to be an old Saxon term, but its exact signification seems doubtful.

The Venerable Bede, who died in 735, in his Ecclesiastical History calls it "familia"; and says it is as much as will maintain a family.

It is also said to be as much as may be ploughed with one plough in a year.

Others say it contains 120 acres.

Crompton, in his book on jurisdictions, says a hide of land contains 100 acres, and 8 hides make a knight's fee; but Coke on Lyttelton says that a knight's fee, or hide, or plough land, or yard land, or oxgang of land, contains no certain number of acres.

The distribution of England by hides of land is, however, very ancient.

In the time of Etheldred the tax called "Danegeld" was levied at the rate of 12 pence upon every hide of land.

In the same reign, when the Danes landed at Sandwich in the year 1006, all the land was taxed by hides, so that every 310 hides supplied one ship armed.

William the Conqueror took of every hide throughout England 6 shillings, and Henry I., when about to marry his daughter to the Emperor, took of every hide of land 3 shillings.

An old book, "Les termes de la Ley," first published, I believe, in 1579, states that a hide of land is the same as a carucate, or plough land.

The several terms oxgang, hide, selion, and carucate appear without doubt to signify a portion of *arable* land of more or less extent, heldin gaynage by the sokemen or villeins, that is, they held it simply at the will of the lord for the sake of the profit or gain they could make out of the cultivation.

"Selion" means, I believe, merely the ridge of land lying between two furrows, and does not therefore refer to any definite quantity of land.

A "fardel" of land is said to have contained 10 acres, 2 fardels, 1 nook, and 4 nooks a yard of land; but, according to some ancient authors, a fardel contained 10 acres, and 4 fardels a yard of land.

Noy, however, in his "Complete Lawyer," says 2 fardels make a nook, and 4 nooks a yard of land.

"Quadrantata terræ," also called fardingdeal or farundel, was the fourth part of an acre.

"Quadrugata terræ" signified such a quantity of land as could be tilled by four horses.

"Librata terræ" means so much land as yields 20*s.* per annum.

An "oxgate" or "oxgang" of land, "bovata terræ," is as much as an ox can till.

Spelman says, "Bovatus terræ est quantum sufficit "ad iter vel actum unius bovis, ox enim est bos, et gang "vel gate est iter."

A "plough land," or "carucate," "carucata terræ," the name originally derived from the French "charrue," a plough, is stated by Thomas Manley in Leybourn's "Complete Lawyer" to contain 4 yardlands at 30 acres to the yardland, that is, "quantum aratrum arare potest in novali tempore," so much as a plough can cultivate or fallow in one season's seedtime.

Pliny says, "Novale est quod alterius annis seritur," land which is sown in alternate years.

Skene tells us that carucate contains "so great a portion "of land as can be tilled in a year and a day, which also is "called hilda or hida terræ, a word frequently used in "the Britain laws."

The "Encyclopedia Britannica" says, "The measure of a "carucate appears to have differed greatly in different "places and at different times."

In the reign of Richard I., it was estimated at 60 acres, and in another charter of the same reign at 100 acres.

In the time of Edward I., at 180 acres, and in the 23rd of Edward III. a carucate of land in Burcester contained 112 acres, and in Middleton 150 acres.

The "Encyclopedia Britannica" also says, "It seems that "in the Domesday Inquisition arable lands are estimated "in carucates, pastures in hides, and meadow lands in "acres."

This, however, is obviously incorrect, because the term "hide" is specially applicable to arable lands.

I may here mention that this Paper was written several years ago, long before the publication of Mr. Seebohm's learned and interesting book called "The English Village Community."

When my attention was first called to this book I feared that my poor Paper had lost whatever little interest it may have previously possessed; but on a careful perusal of the work I came to the conclusion that Mr. Seebohm had treated the subject so much from a political and social point of view, and so little from that of a Surveyor, that after much consideration I still ventured to offer these few remarks to the attention of The Surveyors' Institution, and I have not felt it necessary to add to or alter what I had previously written.

There is only one point in Mr. Seebohm's book to which I think it necessary to allude, and that is, the meaning which

he has thought right to attach to the word "virgate," in which, I confess, I cannot bring myself to agree with his opinion.

Mr. SEEBOHM supposes a virgate of land—"virgata terræ"—to signify primarily a "bundle" of pieces, or parcels, of land.

Now, apart from the fact that a virgate of land had certainly some reference to an ascertained quantity, although a varying one, I venture to think, with great deference, that there is no ground for connecting the word with the idea of a bundle of parcels.

I believe the Latin word virga represents simply a rod, or wand, and virgata terræ signifies a quantity of land, so called because it is set out or measured by the rod, or virga.

On the other hand, the word "fascis" has distinctly this meaning, and would, I venture to think, have been used instead of virga if it had been intended to convey the idea which Mr. SEEBOHM has attached to it.

It may also be noticed that the yardland and carucate, equally with the virgate, embraced a number of separate pieces of land, but yet no idea of the "bundle" is in any way connected with these terms.

Enough has perhaps been said to show how great is the difficulty in the present day of determining with certainty the meaning of many of these ancient terms; nevertheless, I hope that the information contained in this short Paper, crude and imperfect as it is, may not be entirely without interest for the Members of the Institution; and, if so, I shall feel amply repaid for the trouble of preparing it.

In conclusion I may perhaps be permitted to refer very shortly, for the information of some at least of my brother Surveyors, and under favour of our learned Associates, to the distinction between the ancient areas of land known as forest, chase, and park.

A forest, properly so-called, can only be in the hands of the King, because no one else can institute the courts, or grant the commissions, or appoint the numerous officers necessary to administer the forest laws therein.

A forest in law is defined by MANWOOD in his work on the Forest Laws as "a certain territory of woody grounds "and fruitful pastures, privileged for wild beasts and fowls "of forest, chase, and warren, to rest and abide under the "protection of the King for his princely delight, bounded "with unremovable marks and meres, either known by "matter of record or prescription, replenished with wild "beasts of venery or chase, with great coverts of vert for the "said beasts, for preservation and continuance whereof, and "of the vert and venison, there are certain particular laws, "privileges, and officers."

Forests are of such antiquity in England that, except the New Forest erected by WILLIAM THE CONQUEROR, and Hampton Court erected by HENRY VIII., there is no record or history of their erection.

There are, or were, altogether about 69 or 70 forests in England, 13 chases, and about 700 parks.

A forest, if in the hands of a subject, which it can only be by grant from the King, becomes the same thing as a chase, being subject to the Common Law, and not to the Forest Laws.

A chase is defined as something between a forest and a park, being commonly less than a forest, and not having the same courts and officers, and yet of a larger compass, and stored with greater diversity, both of keepers and wild beasts or game, than a park.

It differs also from a forest and park, inasmuch as it is not enclosed by fences or bounds.

A park signifies a piece of ground enclosed and stored with wild beasts of chase, which a man may have by pre-

scription, or by the King's grant. (See CROMPTON on Jurisdictions.)

MANWOOD, in his "Forest Laws," defines it thus:—

"A park is a place for privilege for wild beasts of venery, "and also for other wild beasts that are beasts of the forest "and of the chase, 'tam sylvestres quam campestres,' and "such a park differs from a chase or warren in that it must "be enclosed, and may not be open, for if it do, that is a "good cause of seizure into the hands of the King, as a "thing forfeited, as a free chase is if it be enclosed; besides, "the owner cannot have an action against such as hunt in "his park if it be open."

STOW, in his Annals, says that HENRY I. had a park at Woodstock in which were lions, leopards, camels, &c., brought thither from foreign parts.

It is said that WILLIAM THE CONQUEROR, in order to establish the New Forest, pulled down 22 parish churches, besides numerous villages, chapels, and manors, and depopulated the country for a space of 30 miles.

Let us congratulate ourselves that we live in days when such proceedings would be impossible.

And now, gentlemen, I will conclude as I began, with an apology for having ventured to introduce a subject in which doubtless many Members of the Institution are much better informed than myself.

I do not offer these few remarks as an exhaustive essay on the subject, but if they should be the means of suggesting to some of our Members an object of interesting study, I hope the time occupied in listening to them will not be entirely thrown away.

Since this Paper was written I have met with a very interesting book, published in the early part of the 17th century by THOMAS HEARNE, and called "A Collection of

Curious Discourses written by several eminent Antiquaries upon several heads of English Antiquities."

This book contains several papers on the subject of Land Measurement by Sir Robert Cotton, Sir John Doddridge, Mr. Agard, and other eminent antiquaries.

I do not find in them, however, any information beyond what I have already given.

Mr. Agard, however, says, under date of November 1599, that having studied Domesday Book and other ancient books and records, he found the diversity so variable and different in every county, shire, and places in the realm, and finding all things full of doubtfulness, and that he could not by any means reduce the question into any certainty, he felt almost inclined to leave it untouched, and he concludes in these words, which I think I may very properly adopt as my own—

"And so I pray you accept this in good part, having "omitted sundry notes which I had put down for confirma-"tion, because I would not be excessive tedious, which I "fear I have been."

Mr. E. Ryde (Past-President) felt it a very great privilege to be allowed to move a vote of thanks to Mr. Fowler for his very interesting Paper.

The subject was one on which he should like to say a few words, though it was difficult to know exactly how to discuss it. He happened, however, to be a little prepared for it, because, during the time he was lying on his back at home, from the effects of a recent accident, he had amused himself by writing a history of his own parish; and, in tracing the character of the primitive inhabitants and the number and extent of the landed estates, he had constantly found it necessary to look into the question of land measurement.

He imagined that, if Mr. Fowler were asked to define the text of his Paper, he would say that the statute acre was the standard unit in the measurement of land. He (Mr. Ryde) was bold enough to say that he hoped to be able to prove that this supposition was altogether wrong, and, at all events, in so saying he was throwing down something for the Meeting to discuss. The next point was why it was called the "statute acre"? and the next, why does it contain 4,840 square yards? When the acre (dropping the word "statute" for the moment) was first adopted as a measure of land was one of those things which seemed to defy investigation. The Jews believed that Cain first adopted a measure for land. The Egyptians ascribed the discovery to Thoth; while the Grecians believed that Hermes was the first to introduce a standard measure.

He thought it might be taken for granted that the first lineal measure was based upon the length of the various parts of the human body. There was the hand, which was applied down to the present day to the height of horses. The inch, which was the middle piece of a man's little finger between the joints, and the foot, which undoubtedly came from the member on which men walk. The original yard measure, he had no doubt, was the average stride; indeed, in modern days, land was roughly measured by striding it. The Egyptian cubit was six palms.

In the year 972 King Edgar established a standard measure of length, which was kept at Winchester.

When Domesday-book was made, the term "acre" was well understood, and was employed all through that book as a standard of measure. He had brought with him a copy of Domesday-book, so far as it related to his own parish. The following extract would serve as an illustration of its form:—"King William holds Wochinges in demesne. It was one of the Royal Maners of King Edward. At that

time it was rated for fifteen Hides and an half. They never paid Taxes. There are six Carrucates of Arable land. There is in demesne one Carrucate: and thirty-three Villans and nine Borders, with twenty Carrucates more. There is a Church. Osbern is in possession of it, and there is a Mill worth eleven shillings and fourpence a year. There are thirty-two Acres of meadow and woods that yield one hundred and thirty-three swine." So that it was on reliable record, that the term "acre" was in use as a measure of land in 1086, when Domesday-book was commenced. He might add that the survey occupied about six years, and that the facts were all decided by the verdicts of juries in the different manors.

About these ancient measures there seems to be only one thing certain—viz., that the virgate was one-fourth of a hide and one-fourth of a carrucate; and it was probably established that the virgate never exceeded 30 acres. This would make the hide, or carrucate, 120 acres. One explanation of the term "carrucate" was that it was as much land as a team of horses and one plough could cultivate in a year. After all the investigation he (Mr. Ryde) had given the matter, his supposition was that the original acre was about as much land as a team of horses would plough in one day, and that the most convenient length in which they could lay out their lands for ploughing was 40 rods, which length, 4 rods in width, would make an acre. In time that length of acre came to be so well established as a familiar measure that it got to be referred to as a measure of distance. Thus the modern word "furlong" was generally admitted to be a corruption of "furrow long." Each was 10 chains in length.

From the days of the Norman Conquest down to the present time one could trace the acre distinctly. Mr. Fowler had referred to the old statute, "De Admens-

uratione Terræ," but did not give the text of it in the Paper. It was a very curious document, and was as follows:—

V.—De Admensuratione Terræ.

When an acre of land contains ten perches in length, it shall contain in breadth 16 perches. When it contains 11 perches in length, then the breadth 14 perches, half a perch, and $\frac{3}{4}$ of a foot.

When in Length.	Then in Breadth.					
Perches.	Perches.	Parts of Perches.	Feet.	Parts of Feet.	Inches.	Parts of Inches.
12	13	—	5	½	—	—
13	(13 *a*)	—	5	—	1 *b*	—
14	11	—	7	—	1 *c*	—
15	10	½	2	¾	—	—
16	10	—	—	—	—	—
17	9	—	6	¾	—	½ *d*
18	8	—	14	—	8	—
19	8	—	6	—	11	½
20	8	—	—	—	—	—
21	7	—	10	—	2	¾
22	7	—	4	½	—	—
23	6	¾	(2	—	11	½ *e*)
24	6	½	2	—	6 *f*	—
25	6	—	6	—	2 *g*	—
26	6	—	2	½ *h*	—	—
27	5	¾	(	—	5	½ *i*)
28	5	—	11	—	(10	½ *k*)
29	5	—	8	—	(5	½ *e*)
30	5	—	5	½	—	—
31	5	—	2	—	8	—
32	5	—	—	—	—	—
33	4	—	14	—	(4 *m*)	—
34	4	½	3	—	4	(*n*)
35	4	½	1	—	(3	½ *o*)
36	4	—	7	—	4	(*p*)
37	4	—	5	—	4	(*q*)
38	4	—	3	(½ *r*)	—	—
39	4	—	1	—	(9 *s*)	—
40	4	—	—	—	—	—
41	3	¾	(1	—	10	*t*)
42	3	¾	—	—	(7	*u*)
43	3	½	3	—	(1	½ *x*)
44	3	½	2	—	3	—
45	3	½	—	½	(3 *y*)	—

a Read 12 perches.
c ,, Almost an inch, orig.
e ,, 3 feet 4 inches, and almost half-an-inch.
f ,, 9 inches.
h ,, Almost half-a-foot, orig.—Query half-a-foot and almost half-an-inch.
i ,, 2 feet 10 inches and ½.
l ,, 6 inches and ½.
n Add ¾.
o Read 2 inches and ¼.
r Almost ½ a foot, orig.
t Read 2 feet 6 inches and ½.
x ,, 7 inches ¾.
b ,, a little less than 1 inch, orig.
d ,, almost half-an-inch, orig.
g ,, almost 2 inches, orig.
k ,, 9 inches and ½.
m Omit these inches.
p Add ¾.
q ,, ¼.
s Almost 9 inches, orig.
u ,, 11 inches ¾.
y ,, 5 inches.

A date had been assigned to that statute by Mr. FOWLER, but he believed it was not known when it was passed. At all events he had searched the Statute Book, with Mr. FOWLER's references before him, and could find no such statute. The statute 9 HENRY III., which was confirmed by the 25 EDWARD I, Chap. XXV., enacts as follows:—"One measure of wine shall be through our Realm, and one measure of Corn, that is to say, the Quarter of London: and one breadth of dyed cloth, ruffets, and Haberjects, that is to say, two yards within the lists; and it shall be of weight as it is of measures." The statute of EDWARD I., A.D. 1276, "*Extentas Manerii*," enacted, "That it is to be enquired of the Castles and also of other Buildings compassed about with Ditches, what the Walls, Buildings, Timber, Stone, Lead, and other manner of covering is worth, and how they may be prized according to the very Value of the same Walls and Buildings; and for how much the Buildings without the Ditch may be prized, and what they be worth with Gardens,

Curtilages, Dove-houses, and all other Issues of the Court by the Year. It is to be enquired also how many Fields (campi) are of the Demesnes [and how many Acres of land are in every Field] and what every Acre is worth by the Year [*Lat.* quantum quelibet acra per se valeat ad locandum per annum]; and how many acres of meadow are of the Demesnes, and how many be in a field: and how much every Acre by itself is worth by the year to be let: [also how many Acres of Pasture there be] and for what Beasts or Cattle the same Pasture is most necessary and how many it will find (sustinere) and what the pasture of every beast [*Lat.* Bestie et animalis] is worth to be let by the year." Then there were like provisions relating to "Foreign pasture," "Parks and demesne Woods," Foreign woods," "Pannage, Herbage," "Mills, Fishings." It then went on to say, "Also it is to be enquired of Freeholders the wch: dwell without, as well as within, that is to say, how many Freeholders there be, and who they be and what manner Lands and Tenements and what fees they hold and by what Services, whether it be Socage or Knight's Services or otherwise and what they are worth, and pay yearly of Rent of Assise and who hold by Charter and who not; and who by old Tenure and who by new Feoffment Also it is to be enquired of the said Free Tenants which do follow the Court from County to County and wch: not, and what and how much falleth to the Lord after the Death of such Free Tenants." And other privileges were inquired into. Throughout the statute the acre is referred to as a measure of land. Then the statute of 23rd Henry VIII., Cap. 4, enacts that "Every person having in his occupation threescore acres of Land apt for Tillage, shall sow one Rood with Flax or Hemp seed, upon Pain to forfeit iii. S. IVd. for every forty Acres. An Acre shall be counted 160 Perches, and every Perch sixteen Foot and a half." There was our standard acre defined by statute. This was continued by

another statute, 33 Henry VIII., Cap. 17, and then came the 5 Elizabeth, Cap. 5, Section 78:—"Where an Estatute concerning the sowing of Flax and Hemp was made and provided in the Parliament holden in the four and twentieth year of the reign of our late sovereign Lord King Henry the Eighth to be universal through every County of this Realm for the better Provision of Nets, for Help and Furtherance of Fishing, and for eschewing of Idleness. (Section 29.) Be it ordained and enacted by Authority of this present Parliament That in every such county of this Realm, or part of such county where by the Queen's Majesty's Proclamation it shall hereafter be published, the said Estatute to be commodious or profitable for the Commonwealth, the said Estatute and every Clause, Article, and Provision therein contained be and shall be revived and stand in full Force and Strength to be executed and performed, from the Feast of Saint Michael the Archangel next coming, in all Things other than in the Proportion of a Rood or fourth Part of an Acre, and in the Pain of three shillings and four pence by the said Estatute limited: (2) In Place whereof Be it enacted and ordained by the authority aforesaid, That in every Case and Degree where by the said former Estatute, one Rood or fourth Part of an Acre is limited to be sown with Linseed otherwise Flaxseed or Hempseed; from the said Feast of Saint Michael the Archangel next coming, in Stead and Lieu of the said Rood or fourth Part of an Acre, one whole Acre or less, as by Proclamation in Form aforesaid shall be limited, shall be sown with Linseed, otherwise Flaxseed or Hempseed, upon Pain of Forfeiture of Five pounds for every such Default or offence."

He (Mr. Ryde) assumed that he had now satisfactorily established that the reason why the standard acre was called a statute acre was because it was a measure of land defined by statute and rendered legal by statute.

He now came to the question whether that statute acre was the unit of the measure of land, and he would bring the matter down more nearly to present times. The Weights and Measures Act, 5 George IV., Cap. 74, Section 1, provided that "After the 1st May, 1825, the standard yard defined as the measure of length shall be the 'unit of measures of extension.'

"The straight line or distance between the centres of the two points in the gold studs in the straight brass rod in the custody of the Clerk of the House of Commons, whereon the words and figures 'Standard yard, 1760,' are engraved, shall be, and the same is hereby declared to be, the original and genuine standard of that measure of length or lineal extension called a yard—the brass rod being at the temperature of 62 degrees Fahrenheit, that is the Imperial standard yard that all measures of length shall be taken in parts or multiples or certain proportions of the said standard yard, and that one-third part of the said standard yard shall be a foot, and one-twelfth part of such foot shall be an inch, and that the pole or perch in length shall contain five such yards and a half, the furlong two hundred and twenty, and the mile one thousand seven hundred and sixty such yards."

Section 2 enacts "that all superficial measures shall be computed and ascertained by the said standard yard or by certain parts, multiples, or proportions thereof, and that the rood of land shall contain one thousand two hundred and ten square yards, according to the said standard yard, and that an acre of land shall contain four thousand eight hundred and forty such square yards, being one hundred and sixty square perches, poles, or rods."

Section 3 provided for the restoration of the standard yard if it were lost, and Section 23 of that statute repealed the Statute "De Admensuratione Terræ," referred to by Mr. Fowler in his Paper.

Such was the Standard of 1825, but they were more concerned with the Standard of the present day, and he would now refer to "The Weights and Measures Acts, 1878," Section 10, which enacts that "the straight line or distance between the centres of the two gold plugs or pins (as mentioned in the first schedule of this Act) in the Bronze Bar by this Act declared to be the Imperial Standard for determining the Imperial Standard Yard, measured when the bar is at the temperature of 62 degrees of Fahrenheit's thermometer, and when it is supported on bronze rollers placed under it in such manner as best to avoid flexure of the bar and to facilitate its free expansion and contraction from variations of temperature, shall be the legal standard measure of length and shall be called the Imperial Standard Yard, and shall be the only unit or standard measure of extension from which all other measures of extension, whether linear, superficial, or solid, shall be ascertained."

That, he thought, disposed of the question of what was the unit of measure. Section 2 of the foregoing enacted that one-third part of the Imperial Standard Yard shall be a foot, and the twelfth part of such foot shall be an inch, and the rod, pole, or perch in length shall contain five such yards and a half, and the chain shall contain twenty-two such yards, the furlong 220 such yards, and the mile 1,760 such yards. Section 12 enacted that the rood of land shall contain 1,210 square yards according to the Imperial Standard Yard, and the acre of land shall contain 4,840 such square yards, being 160 square rods, poles, or perches.

In conclusion, he thought it would be a little unfair to the memory of a great man if he did not mention the name of Edmund Gunter, who did more to diminish the labour of Surveyors and Land Measurers than any man that had ever lived. Edmund Gunter was born in Hertford-

shire, and was educated at Westminster School and Christchurch, Oxford. It was he who, in the year 1606, introduced the scale well known under the name of "Gunter's Scale," and the chain of the same name, which every one used. He was the first to apply decimal arithmetic to the complicated measures of land, and to adapt a decimal system to the transactions of the Land Surveyor. For this, Surveyors were under obligations to him. GUNTER published a book of trigonometrical tables, and was the inventor of the terms Cosine, Cotangent, &c. This was almost the only country in which the decimal system had not been applied to all weights and measures. If decimal arithmetic were adopted in this country, half the teaching of children to cipher, as it was called, would be unnecessary. He thought that, in a discussion of this kind, the Members, as practical scientific men, should express their opinion that the decimal system should be applied to all our weights and measures.

Mr. C. OAKLEY (Fellow) had much pleasure in seconding the vote of thanks to Mr. FOWLER for his interesting Paper.

The oldest document that had been referred to was Domesday Book; and, in looking up the subject, he had found occasion to refer to a very valuable work by the Rev. LAMBERT LARKING, on that portion of the Domesday Survey that related to the county of Kent, and the information he possessed on the subject had been derived from an examination of that work. Mr. LARKING, who had gone very fully into and had endeavoured to explain the meaning of the terms used in Domesday Book, found no part of his task so difficult as the determining of the actual measurements of land, the reason being that in those days measurements were not made by graduated lines and rods but by the actual work done by the plough or the labourer in a

given space of time. Mr. LARKING, he observed, defined a team as eight oxen or four yoke, which gave rise to one of the terms relating to the division of land, the "jugum," which he considered to be the same size as the "hide."

As an illustration, in support of his contention, Mr. LARKING quoted a passage from Sir F. PALGRAVE's "History of Normandy and England." "Land was measured by a compromise between the superficial extent and the productive value. Instead of trundling the theodolite they yoked the oxen and sped the plough. The carucate consisted of so much land as the ploughshare could furrow in the course of the season." Therefore, it was quite clear that the terms must have different meanings in different districts according to the nature of the soil, and it was, consequently, almost impossible to define, with precision, the actual measurements recorded in Domesday Book. Mr. LARKING stated that the Norman acre was one-fourth larger than the Saxon acre. One of the terms was said to be peculiar to the county of Kent, namely, "suling" or "solin," which meant as much land as one plough could cultivate in the year, including also as much as was required for the support of the oxen and, probably, for the support of the labourers also. In fact, the term "suling" was a synonym for "carucate," which was derived, as Mr. FOWLER had said, from the French word *charrue*. This practice of measuring the land by the work done did not seem to be original with our ancestors, for, according to MACAULAY, the Romans used a similar method. In the Lay of HORATIUS COCLES, he says—

> "They gave him of the corn land,
> That was of public right,
> As much as two strong oxen
> Could plough from morn till night."

In short, it appeared to be impossible to define, with

any accuracy, what those terms meant applied generally, but the basis of them was the quantity of land that could be cultivated in a year by one team or yoke of oxen, which varied according to the mode of cultivation and system of husbandry adopted, and the soil in different districts.

The conclusion was arrived at by Mr. LARKING that the approximate area of the "suling" or carucate is 160 Norman acres, of the "jugum" or "hide" 40 acres, and of the "virga" 10 acres.

Mr. C. J. NEALE (Fellow) thought that the dominant impression after listening to Mr. FOWLER's interesting Paper and the elaborate statistics contained in it, must be how extremely diverse and indistinct were the terms such as "hide," "oxgang," "selion," "carucate," "virgate," and so on, used in ancient times to designate property in different localities. It was clear that these terms represented a possession, but not an agreed or definite area of possession; and it was found that, dating from the Danes, efforts were made at a very early period to establish an accurate system of mensuration, and traces of such a system, indeed, were discoverable in Domesday Book.

The author of the Paper had quoted from Mr. RASTALL's very interesting History of Ancient Statutes, and he (Mr. NEALE) had before him another extract from the same writer's History of the Antiquities of Southwell, giving a definition of "Forest Measure." "It is ordayned as is aforesaid yt iii cornes of barley dry and rounde sett in length make an inch, and xviii inches make a foote after ye assize of ye forrest, and xxv such feete make a perche after ye assize of ye forrest, and xl perches in length and foure in bredth make an acre, and one roode containeth one perche of xxv foote in bredth and xl such perches in length and iiii such roodes make an acre after ye assize of ye forrest, and so

ought to be measured all assarts and all arrentments arrented and to be arrented." The term "Assart" was described in "Phillips' Moderne World of Words" (edited by John Kersey, 1696) as "an offence committed in a forest by pulling up by the roots the woods or thickets that are covert for the deer, so that they can never grow again." "Arrentation," the same authority described to be "a licensing an owner of lands in a forest to enclose them with a low hedge and a little ditch." It happened in his experience in the enclosure of about 4,000 acres of Sherwood Forest, in conjunction with his friend the PRESIDENT, in 1849-1851, to find a remarkable confirmation of the accuracy of that description of "forest measure." A grant or license to assart 366 acres of the forest in the year 1664 was produced. Applying the "forest measure" to that license, it was found that 1 perch contained 37½ statute feet; 1 acre contained 40 such perches, or 1,500 statute feet in length, and 4 such perches or 150 statute feet in breadth. "A forest acre," therefore, contained 25,000 statute square yards, and so 366 forest acres equalled 1,890½ statute acres. It became necessary to identify that area of "assarted" and "arrented" land, and it was found to contain 1,892 a. 2 r. 17 p., according to a survey made for tithe apportionment in 1844. Of course, in the remote times referred to by Mr. FOWLER, the relation of the population to the land area was widely different from that prevailing at the present time. No maps existed, and the limits of parishes were only perpetuated by the quaint ceremony of *beating the bounds*, when the parishioners assembled armed with spades to reopen the landmarks. This ceremony usually took place on the Monday in Rogation week. The party perambulated the boundaries of the parish, headed by the Vicar, who at different points recited a prayer. The "beating" was done vigorously with a spade on the person of any delinquent

present who omitted to remove his hat at the commencement of the prayer. The penalty was one for the King, one for the Queen, and one for the Lord of the Manor, and the object was to quicken the victim's memory as to time, place, and circumstance. This interesting exemplification of ancient customs he witnessed for the last time of its exhibition thirty-four years ago, when it was more appreciated in the breach than in the observance. In PHILLIPS' Dictionary of 1696, before referred to, a rood of land was described as "the fourth part of an acre, containing 40 square perches or poles." This part of the subject Mr. RYDE had elaborated. Mr. FOWLER had spoken of "rood" as applied to a measure of length, and gave it in his experience as being 8 yards. He (Mr. NEALE) found in Derbyshire, Nottinghamshire, parts of Lincolnshire, and the West Riding of Yorkshire that it contained 7 yards. The word "rood" was also used extensively to designate the superficial area of brick or stone walling.

With reference to the boundaries of enclosures it had before been pointed out in that room that the Ordnance Map defined physical marks only, and not the actual boundaries of estates. This element of uncertainty as regards the actual boundaries was inevitable because from the earliest times when lands were enclosed by hedges, or growing fences, they were planted within and upon the several properties to prevent trespass by overgrowing branches, and to permit ditches to be cut and maintained for surface drainage, and so territorial owners were entitled to two, three, four, and in many cases five feet of land beyond or outside the boundary lines depicted on the Ordnance maps. There was yet another deviation from perfect accuracy in certain localities where parks were enclosed from the royal forests by grants from the Crown. It was usual to fix the palings or fences within the actual boundary, by the space of a "buck" or "deer leap" and some bucks

were supposed to leap three yards, some six, and others nine yards. An instance of the latter width occurred in Bestwood Park, granted by CHARLES II. to an ancestress of the present Duke of ST. ALBANS, where the buck leap was enclosed by an outer fence about 50 years since, and the space planted with trees which now formed a belt round a large portion of that park.

Mr. E. SMYTH (Professional Associate) thought that Mr. FOWLER had perhaps stated rather more than he strictly meant to do in saying that no acre, except the statute acre, had been known or recognised since feudal times. It would be familiar to many Members that there were maps on which the acreage of each field was given in statute measure, and also according to the customary measure of the part of the country in which the property might be situated. He had seen that day a map of an estate in Sussex, and others of a large manorial estate in Cornwall, both having these two sets of quantities, and both surveys having been made in the present century. Then, again, there were quite modern books giving tables equating the statute measure and the customary measures of different localities. But when Mr. FOWLER questioned whether any living man had seen a plan of an estate from measurement by other than the statute pole, or failing to show the statute acreage, the suggestion was probably pretty safe.

The part of the Paper that interested him most was that which had reference to the etymology of the word "yard-land"; and it might almost be said to be fair to the Institution for a word or two to be spoken in the sense of Mr. SEEBOHM's opinion, which had been controverted in the Paper. Profiting by the recommendation of Mr. ROGERS, he had some time ago read Mr. SEEBOHM's book with, he would only presume to say, the greatest interest, for it was

a work which in its systematic thoroughness was far above the level of his praise. The expression "All that customary messuage and yard-land," which had often been to them such dismally monotonous reading, was invested by Mr. SEEBOHM's explanations with almost the charm that might attach to an authentic pictorial representation of old English agricultural life. It was, probably, for want of careful reading that he had not noticed in it a direct explanation of the appearance of the word "yard" in "yard-land." At page 133 the author gave extracts from a standard Saxon document, and side by side he gave an early Latin version and an English translation.

The phrase "on his yard-land," in the English translation, stands in the Saxon original as "on his gyrde-landes," in seeming consistency with that notion of detached strips or parcels in the open field being collected or girded together into a single possession. He (Mr. SMYTH) supposed that the Saxon word became colloquially corrupted in the course of time into yard-land; for he found that it is to roots very closely resembling "gyrde" that the dictionaries trace the English "yard," which as a court usually surrounds or girds a castle or house. Meanwhile, however, the Latin translation had been made of "on his gyrde-landes" into *in sua virgata terra*, so that the land was here described by the adjective *virgatus*, meaning made up of twigs or rods, but not having had assigned to it, he thought, the meaning, suggested in the Paper, of marked out with the rod. He had, however, almost forgotten what little Latin he ever knew; and, at all events, the Institution was much indebted to Mr. FOWLER, not only for his very interesting notes, but also for drawing attention to Mr. SEEBOHM's work. This would lead many Members to study it; and it was hardly possible to overestimate the enjoyment to be thus derived by gentlemen engaged in agricultural pursuits.

Mr. Fowler in reply said that he need hardly remark that, though the Paper had cost him some time and labour, he had derived a large amount of pleasure from its preparation and that pleasure was very much enhanced by the kind reception it had met with, and the interesting discussion it had elicited.

He would not at that hour detain the Meeting with any lengthy remarks, but he would like to refer to one or two points in Mr. Ryde's speech. He doubted his authority for the date of the statute of Edward III. His authority was Tottell's Book of Ancient Statutes, published in 1556. This book was the first imprint of Ancient Statutes of the realm. After the invention of printing all new statutes were printed, but the ancient statutes remained in MS. until Tottell's book was published.

The list of queries to which Mr. Ryde had referred appeared to him to be directions given to the Bailiff for his report to the Courts Baron.

The brass standard yard alluded to by Mr. Ryde was burnt in the great fire at the Houses of Parliament in 1834.

He was not a sufficiently good Latin scholar to discuss very closely the meaning of the word "virgate," but with what little knowledge he had of Latin, he thought that "virga" meant a single wand or stick or branch, not a bundle of rods. Mr. Seebohm used the word as if it implied a bundle of rods, such as the instrument of punishment used by the Romans. He could not help thinking that if the idea intended to be conveyed had any connection with a bundle, it would have been in some way identified with the word "fascis" and not with the word "virga."

He would only add that the expectation he expressed that he should at least derive as much information as his Paper had imparted had been most fully realised.

The President said that, before touching on the principal subject of the discussion, he should venture to occupy a few moments in an attempt to rehabilitate the reputation of a much maligned individual—William the Conqueror—in respect to his dealings with the New Forest. It was perfectly certain, in his opinion, that the statements of the hostile chroniclers, referred to by Mr. Fowler, were gross exaggerations; the simple fact being that the intrinsic irreclaimable barrenness of the greater part of it was such that it never could have supported any considerable population, though there were no doubt some inhabitants, and possibly a few "wattle and daub" churches, on the least sterile portion of it.

He had known it, more or less completely, for many years, and in 1875 he had occasion to make a professional inspection of the whole of it, to prepare himself for giving evidence before a Select Committee on certain questions between the Crown and the Commonright owners; he might add that the extreme enjoyment he derived from its exquisite scenery was in no degree lessened by the fact that he was to be paid for it.

As to the nature of the soil, or rather the absence of soil, on great part of it, he could not better illustrate his view than by giving the following estimate of its agricultural rental value, made by Mr. John Clutton in 1849, with which he (The President) fully concurred, though he had the misfortune to be opposed to Mr. Clutton in other respects in the inquiry of 1875:—

		£	s.
30,084 acres at 1s. 6d. per acre	-	2,256	6
15,000 „ 5s. „	-	3,750	0
18,660 „ 10s. „	-	9,330	0
Total 63,774		£15,336	6

being an average of about 4*s.* 9*d.* per acre. So far as his knowledge went, moreover, no traces of early habitation had been found in any part of it. Reverting to the main subject of Mr. Fowler's Paper, although he had read Mr. Seebohm's fascinating book with the greatest interest, and believed that it gave, in the main, a true history of the social relations of the different grades of landowners and occupiers during the periods dealt with, yet he must say, and the author would, probably, be the first to admit it, that his lack of practical acquaintance with the working details of agricultural and pastoral life had led him into a few errors in the subordinate parts of his work.

He (The President) would not, however, then dwell on that part of the subject, but, emulating the courage of Mr. Fowler and Mr. Smyth, would venture to express his views on a quasi-classical question. The same difficulty which Mr. Fowler had found in adopting Mr. Seebohm's conclusion that "virga" in this connection meant a "bundle" of sticks, occurred to him. If it were permissible to theorise on so personal a subject, he should conjecture that Mr. Seebohm had received his education at the most famous of our public schools, in the government of which a fasciculus, or "bundle" of birchen twigs, was supposed to be an important factor; and that some confusion on the subject of rods still remained in his mind between the fasces of the lictors and the instrument in question. He (The President) could not indeed understand, in any case, how a series of widely-detached strips of land could be rightly called a bundle. His own theory on the subject was that "virgata terra" was simply a translation of the word "yard-land" into the canine Latin of the monastic and lay scribes of the period; and he felt confident that it did not come into use until after the true derivation of the word was lost sight of. They thought, in fact, like many people now, that it was

derived from "yard," a wand or rod, in the sense of a measuring staff, being the second of the "yards" dealt with in Professor SKEAT's Etymological Dictionary; whereas it was in fact derived, as he did not doubt, from the first "yard," of which the explanation is given in that dictionary, and meant the land and common rights associated with the yards, or garths—the homestead, in fact,—of the occupier who held it in villeinage, or otherwise. In support of this view he would adduce from the same high authority the derivation of the word "hide," which was also connected with the idea of the homestead. He would remind the Members of the following names by which some of the various inclosures forming a homestead were known to this day in middle and northern England:—Stack-yard, or stack-garth, rick-yard, fold-yard, crew-yard, cow-garth, calf-garth, court-yard, and so on. It would be seen that, up to a certain point, he was in complete accord with his friend Mr. SMYTH, though he must protest vigorously against the suggestion, if he understood it correctly, that there was any connection between "garth" and the ligature round a bundle of rods. He was far from believing that his theory would clear up all the difficulties connected with the true interpretation of "hides" and "yard lands," as the statements of many of the old writers on the subject were, in many respects, quite irreconcileable and inconsistent with each other on any possible theory. He held it for certain, however, that neither the one nor the other was at any time a measure of area, but that they were originally set out as shares of equal value, "quantity and quality considered" (to use the language of the old Inclosure Acts), of some "mark," "ham," township, or manor. It was, of course, impossible to reconcile this with the statements of old writers that the hides as well as the yardlands contained a definite number of "acres," except on the theory, which he also held, that the

"acre" in one of its almost endless meanings implied equality of value.

On any other theory it must be taken for granted, as many writers tacitly assumed, that all land is of equal value, whatever its position or intrinsic quality, or the greater or less degree of labour required in working it, the absurdity of which view would be fully appreciated in that room.

Without pursuing the theoretical part of the subject further, however, he would take an actual case, namely, the Manor of Bishopstone, in North Wiltshire, the survey of which he produced, and which was under his charge for many years, before he sold his employer's interest in it to Mr. CLUTTON on behalf of the Church Estate Commissioners, who had acquired the reversionary interests of the ecclesiastical owners.

The case was in all respects a singularly complete example of the kind of manor described by Mr. SEEBOHM and other writers of authority; and the tenure by which it had been held from time immemorial, and was held by his (THE PRESIDENT's) client—namely, a "Lord Farmer" under an ecclesiastical corporation, with power to sublet all the holdings, except the demesne lands, on copyholds for lives —was an interesting illustration of a common mode in which the monastic bodies dealt with their estates. Time, however, would not permit him to pursue that part of the subject further, and he would confine himself to the question of the "yardlands."

The manor farm, which is, in fact, the ancient demesne land, contains about 840 acres; of the rest of the manor, which comprises 2,454 acres (being the whole parish, except the "Prebend's" lands that is to say, the ancient glebe and allotments in lieu of tithes) all, except about 15 small homesteads, and four pieces of land, containing together 9A. 2R. 5P., still called "Board Lands" (a most interesting reminiscence

of the "Bordaru") is divided into 70 "yardlands" representing, no doubt, the original holdings of 70 tenants in villenage. He did not like to call them "villeins" or "churls" because of the offensive meaning the dwellers in towns and cities had succeeded in attaching to those names, as distinguished from their own "urbanity" and "civility." These yardlands were dealt with as such at the inclosure of the parish, and are fully recognised in all the transactions of to-day, although they have been laid together in some cases and divided in others. For instance, there are 31 half-yardlands and two quarter-yardlands; on the other hand, one holding contains eight and a half yardlands, and others, numbers varying from two to five, but there are still 22 single yardlands intact, in one sense, although, of course, the actual site of the lands comprised in them has been changed by the inclosure. The present area of each of these yardlands varies according to their quality and position, from 57 acres to about 10 acres, but the average is from 15 to 20 acres.

He would proceed to give his own views of the reason which led to the yardlands being in great measure divided into detached strips, and in doing so he should venture to take it for granted that all the Members in any way interested in the subject would read Mr. Seebohm's book—"The English Village Community"—on the first opportunity, if they had not already done so. It appeared to him that there were only four modes in which any large area of land of very unequal value in point of quality and situation, as nearly all large areas of land in Great Britain are, could be divided fairly among the parties entitled to occupy it. One was that adopted in modern inclosures of open field land and commons. As to this he would say nothing, because they were looking forward to the Paper which Mr.

Herbert Smith, one of their Fellows, had very kindly undertaken to prepare on the subject.

A second mode was to give to each claimant a strip of land running through from some point near his homestead to the extreme boundary of the tract to be dealt with. He observed from Mr. Seebohm's book that this arrangement obtained in some parts of Germany. It had also prevailed in two or three comparatively recent inclosures on the Yorkshire levels.

He produced the map of an estate at Thorne, of which he had the management. It would be observed that one of the allotments, which, with a touch of rustic humour, are locally called "cables," is 66 yards wide and 3½ miles long. The only thing to be said in its favour was that the owner had a share of all the various qualities of land, the rental value varying from 35*s.* to 2*s.* per acre. There is a similar case in the adjacent parish of Goole, with one of the allotments in which his firm was now dealing. It was sufficiently obvious that this method of division was never likely to become general.

The third mode was to arrange a rotation of occupancy, so that all in turn might have the best land. Of all possible arrangements, this is certainly the worst, particularly in the case of arable land; yet it prevails in Russia to this day, and was certainly practised by our Teutonic, and possibly by our Scandinavian, ancestors before they came to Britain. He entirely disbelieved that they ever resumed it here so far as arable land was concerned, though there were numerous cases of interchangeable meadows, some of which within his knowledge still remain in force. He was, however, inclined to think that Mr. Seebohm had adduced reasonable ground for the belief that the system prevailed among the Welsh and Irish celts. As to the last named, by the way, it was

difficult to reconcile his theories of "co-aration" and a common tribal plough team with the fact that, according to usual custom, the only practical connection between the plough and the plough-horse was the tail of the latter. He (THE PRESIDENT) was indebted to their Secretary for pointing out to him a very interesting statement by M. DE LAVELEYE, on the authority of M. DE HAXSHAUSEN that consecrated measuring rods of different lengths were in some localities used by the Russians—the shorter for measuring the good land, the larger for that of inferior quality, so that the lot may be smaller in proportion to its fertility, an illustration of what he had previously advanced that the size of the "acre" in England sometimes depended on its quality.

The fourth and last mode was that adopted, as he believed, in setting out the "Yardland." After provision had been made for the lord's demesnes lands, the bordars or cottars, as well as the church, and other official claimants, there was assigned to the villeins in each of the open arable fields—commonly three, but occasionally, as at East Ravendale in Lincolnshire, the survey of which he produced, two—as nearly as possible equal portions of all the various qualities. Where the value could not be equalised in this way, the deficiency of value was compensated for by increased area—a better illustration of his view could hardly be given than the cases of JOHN MOLDESON, JOHN WATEKYN, and JOHN MAYNE, tenants in villenage of the manor of Winslow, in the reign of EDWARD III., the particulars of part of whose holdings are set out in Mr. SEEBOHM's book pp. 24-27. Mr. SEEBOHM's "map of the Normal, Virgate, or Yardland" p. 26, also illustrates with curious felicity his (THE PRESIDENT's) view, though his conclusions are unfortunately by no means in accordance with the author's.

Turning to another subject, and adverting to the con-

fusion caused by the use of the same name for totally different things, it should always be borne in mind that in connection with this subject "fields" are not the "crofts," "closes," "intakes," "ings," "grounds," "pingles," "pightles," "severals," and so forth, which we now call fields—but the uninclosed commonable arable lands—the "Champion" (Champaign) lands of FitzHerbert and Tusser. "Land," in addition to its general meaning, has a special one, namely, the ridge, or "rig" between two furrows, traversed by the plough at one "bout," that is to say, one furrow-long; it was, in fact, identical with selion, and there were several other names for it in different districts.

These "lands" were, and still are, in the Midland Open Field Parishes, commonly called "acres" and "half-acres," according as they were larger or smaller, but with little reference to their real area.

The larger "lands" however very commonly contain about three-quarters of a "chain acre," as the statute acre is called by way of distinction in the "stint" for Barrowden Commonrights of 1780, which he produced. The customary, or reputed, or field "acre" in the Midlands, was in fact about three roods, but on actual survey reputed acres in open fields were found to vary very much, one recognised cause of such inequality being that "good ploughers" gradually encroached on their neighbours' lands. It had indeed more than once happened to him, in valuing leasehold "lands" held by a tenant whose own were intermixed with them, to be able to distinguish the former readily without referring to the plan by their attenuated width compared with the tenant's own. These "lands" are stereotyped in myriads, in the present upland pastures of the "shires." They vary in width from 5 yards to 18 or 20, but they are most commonly about 8 yards wide.

In height they vary from 18 inches to 4 feet and upwards, and grievously vex the souls of hard-riding foxhunters, more especially when they are plentifully sprinkled with old ant-hills. "Oxgang" was commonly used as the equivalent of "bovate," but its primary meaning certainly was the right to turn one ox into a stinted common pasture, being the analogue of "cow gait," which was still prevalent, both in name and in fact, in very many cases within his knowledge.

"Furrow" means, not only the single slice turned up by the plough, but the depression between two "lands," or "rigs." Very commonly, however, the furrow, in this sense, was replaced by a balk of uncultivated land. In one case within his knowledge the "balks" were half as wide as the lands.

How the one-eighth part of a statute mile came to be called a furlong, he could not conjecture; but he wholly disbelieved that the name had any connection with the plough furrow, though a "normal furrow-long of 10 chains" had been invented to account for it. The length of the furrow, in the sense of one "bout" of the plough, must, necessarily, in the vast majority of cases, have been adjusted to the contour of the ground, with reference to its facilities for surface drainage—the only possible exceptions were dry sandy level soils, or other porous soils overlying chalk. The open fields of Hitchen, for the most part, came within the latter category, yet there was certainly no trace there, judging from the beautiful little map prefixed to Mr. Seebohm's book, of any prevalence of 10-chain furrows, though a few of them scale very nearly that length, as the doctrine of chances would lead one to expect. The scaling of other maps in his (The President's) possession, and his own observation for the last 40 years, led to similar results.

The true meaning of "furlongs," which is the equivalent of the "shots" of the home counties, is those particular areas within the common fields, which lay most conveniently, having regard to the contour of the ground, for being ploughed in one direction, and the name in this case is manifestly derived from furrow-long. These furlongs vary immensely in area; in one parish which he inclosed in Warwickshire there were 68 of them, varying in size from 1A. 3R. 1P. to 38A. 2R. 31P.

If he was perplexed by the furlong as part of the mile, he was equally at a loss to understand how an "acre," which was surely the most indefinite word in the English language, came to be a measure of length, particularly of several different lengths; it was still in constant use in that sense in his neighbourhood. The lack of general knowledge on this point made part of HERMIONE's address to her guests in the "Winter's Tale" very perplexing to the critics—

> "You would ride us
> With one soft kiss a thousand furlongs ere
> With spur we heat an acre."

Mr. FOWLER would, probably, maintain that SHAKSPEARE, as a Warwickshire man, meant an acre of 32 yards instead of 28, as he (THE PRESIDENT) used to understand it; but in either case HERMIONE's meaning is plain enough, and is true in principle, though not free from graceful feminine exaggeration. We should traverse 220,000 yards under the influence of persuasion in less time than the most vigorous jockey could force us over 28 (or 32) yards. The passage, by the way, was interesting, as showing the derivation of the racing term "heats."

He would close his remarks with an odd illustration of the vagueness of rural notions about distance, even in recent

times. Each of two neighbouring villages in his district contained within his recollection a guide-post pointing out to the wayfarer the road to the other village; but whereas the legend on the B—— guide-post was, "To C—— 2 miles," the C—— post set forth, "To B—— 1 mile."

The vote of thanks to Mr. Fowler having been put and carried unanimously, the Meeting then adjourned.

Paper 122.
No. 209.

IMPROVED DWELLINGS FOR LABOURERS AND ARTISANS.

(WITH DRAWINGS.)

By THOMAS CHATFEILD CLARKE, F.R.I.B.A.,
Fellow.

Read at the Ordinary General Meeting of The Surveyors' Institution, *April 21st*, 1884.

THE PRESIDENT (MR. T. SMITH WOOLLEY) IN THE CHAIR.

It was my privilege to read a Paper on the above subject in 1869, and I have been requested to take it up again as one of great practical importance to society at large, and of special interest to the body I am addressing.

Looking back to the period to which I have referred, the efforts then made were experimental as compared with the present day, and whilst admitting with a great feeling of regret the condition in which large masses of our countrymen are compelled to live, I feel bound to express my conviction and experience that great and substantial progress has been made, that no ground exists for panic, and that what is really needed is to apply principles of social and economic reform, apart from all questions of party whatever, in dealing with the problem.

I would further add an expression of my belief, founded on past experience, that whilst acknowledging to the fullest extent the valuable aid brought to this question by the public press in recent articles, letters, and papers, there is some fear of obscuring the wider aspects of the condition of our labouring and artisan classes, viz., that important as the

improvement of their dwellings has become, both as to physical and moral health of the people, it is comparatively useless to attempt to sustain such dwellings in a healthy and proper condition unless the people are raised "pari passu," intellectually, socially, morally, and religiously.

There is a further point of great general interest that has often presented itself, and that is, how nicely to draw the line between healthy and unhealthy dwellings, and consequently as to the extent of the necessary action with respect to such dwellings.

It cannot be denied, I think, that, taking the Metropolis for example, if you draw a very rigid line, below which you would condemn buildings as unhealthy, you would have to undertake such an amount of demolition and reconstruction as would be practically impossible to cope with on the ground of cost alone.

I fear this remark applies also to many of our large towns throughout the country, and with special force to many of the older towns, which have no energetic officers to stir up the owners and lessees to a sense of their duty.

This brings me to the first point in respect to the matter, viz., the essential importance of enforcing the conditions of the Public Health Act of 1875 and the Nuisances Removal Act and other Acts bearing upon them, so as to insist that in that class of dwellings on the borderland, if I may so call it, of needful reconstruction, no effort is avoided to carry out sanitary improvements and arrangements conducive to health, as well as to prevent overcrowding ; and it is clear no step should be omitted to compel the local authority to see that this is done.

Here, however, a practical question arises, even with the great powers given under these Acts, how far you can treat as a nuisance or injurious to health those structural and remote defects so largely existing in the lower class of

houses, arising from damp in the walls, insufficient thickness of same, the faulty construction of roofs, giving rise to constant leakage, and a variety of other points which will present themselves to a practical Surveyor. One of the first questions will be to take steps, even by altering the kind of local authority if need be, to administer efficiently the Acts as respects present dwellings, and to have a thorough system of inspection by which such tenements may be practically kept in a sanitary condition.

A system of adequate inspection would have to be carried out under rules defining as far as possible, but with reasonable latitude, the class and condition of buildings which are to be deemed a nuisance. Having thus in a measure cleared the ground by eliminating all that large class of dwellings which *may* remain, we come to the question of the many difficulties surrounding the clearance and necessary reconstruction of houses or areas absolutely unhealthy.

The *first* head of this subject is the cost of such clearances.

The *second* head is that of the disturbance of the population.

The *third* head is the way in which such projected improvements shall be carried out, and by what body shall they be effected.

The *fourth* head is the extent and class of accommodation to be provided and the work that has been done, *together* with the results and cost.

First, here we are met, then, at the first onset with what Mr. CHAMBERLAIN very justly calls "an insuperable obstacle at present to a bold and comprehensive dealing with the subject," arising from the great cost incurred.

In the Metropolis, in Birmingham, and elsewhere, the large outlay obliged to be made beyond any possible power of recoupment brings with it a necessary and absolute restriction

of the operations, as it is clear there is a limit to that which the ratepayers can bear, and you are brought face to face with the further question, Is it the duty of the State to undertake the work?

Now, it seems to me that the extent to which the State should go, is to lend to such Corporations and otherwise as are prepared to undertake the work *upon* a rate of interest as *low* as can be effected without loss, but absolutely secured as to repayment of principal and interest on the buildings and land for which purpose the loan has been made.

Returning to the question of cost, the difficulty arises at once as to the possibility of obtaining land on which to erect dwellings at such a rate per foot or yard as shall make it remunerative, and I confess to having found the pressure of this point in many ways besides relating to the erection of artisan dwellings.

A Railway Company takes away a property, for which the owner is thought to be adequately recouped by the full value of the land, adding the value of the buildings, and 10 per cent. interest for forced sale, but, in practice, this often results in an injustice, and so, also, in the question of providing dwellings, the same difficulty arises.

It is manifest that, in order to procure land in or near the heart of a city or large town, you have to buy land with buildings upon it, and you are compelled to pull down, generally, the old and unfit buildings and erect new ones, this operation, as a whole, leaving you with the site, before commencing to build, saddled with a heavy burden of cost.

Deal with the matter how you will, assuming it to be on equitable grounds, here you encounter the obstacle which is and has been a practical bar, in the Metropolis and elsewhere, to carrying on the good work. There is plenty of capital in the market to build dwellings, but, unless, as in the case of the sites dealt with by the Metropolitan Board

of Works and handed over to the Peabody Trustees, you make an enormous sacrifice, and one which, practically, you do not like to repeat, sites are hardly obtainable on profitable terms.

I consider we must face this difficulty, and I am rather disposed to do so on the ground of not attempting such immense clearances as have been effected on the scale of Sir Richard Cross's Acts (though acknowledging the great foresight and wisdom of his general action), but by a more rigid and just insistance on a strict adherence to sanitary laws, and preventing overcrowding, on the non-occupation of cottages and dwellings inherently unhealthy, you would drive property into the market, and thus afford sites in various neighbourhoods, and at the same time, by not evicting a large number of persons at one time, you would not create that greater and special crowding which has been a crying evil in London.

I confess I do not desire to see either the State or the Municipality stepping in and largely obtaining sites, afterwards parted with at great loss, but I see no injustice in requiring either Railway Companies making great clearances, or other public bodies which have largely profited by the enhanced value of land being required when dealing with land, to appropriate some of the least valuable portions, in suitable localities, to the erection of artisans and labourers' dwellings.

It bespeaks a very enlightened idea of the Duke of Westminster, in administering the trusts of a great estate that he has recognised the great importance of this principle; and I only hope the duty to so act may be brought home to many public bodies and private owners.

I cannot help recording here an experiment in this direction made by one of the City Companies (The Fishmongers), for whom I have the honour to act, who allotted

one side of a street in Walworth to this purpose, and who initiated a class of dwelling in a neighbourhood where it was specially desirable, not constructed on what has been called the Barrack system, but in blocks, not of great height, with open yards in the rear, and all the conveniences necessary being supplied for any artisan's family.

I think it may be represented to others of the City Companies that they should follow in the same steps as one of the most useful and legitimate means of using their funds.

Their estates have largely and properly benefited by the increased value of land in the City of London, but every commercial building which has taken the place of one hitherto, either wholly or in part, used for dwelling purposes, has driven from the centre, often of proximity to their work, those who would gladly have remained; and as year by year the City of London is being rebuilt and its boundaries become extended, I have seen the effects of driving away the artisan, and have often felt that, though a necessary eviction, it was a hard case, and how much I desired that within easy distance there was a block of buildings to replace the lost home at moderate cost.

This question of expense has many bearings. It has been objected, and with reason, that the mode of action under Sir Richard Cross's Acts has hitherto worked in a way which is too costly, tedious, expensive, and unsatisfactory.

Now, the principle I would endeavour to enforce is, that whilst valuing the property at its actual worth, taking its condition and all circumstances into account, you cannot with justice set up the plea that the seller is to suffer for the good of the municipality or treat it on the basis of a willing seller. I could myself give cases where the money to be received from the enforced taking of property under the Artisans and Labourers' Dwellings Improvement Acts has been the only source of the support of a family, and it

often happens that, with a mistaken desire for the welfare of those to follow them, comparatively humble people leave houses of a small class to their relatives as a life provision. I think we must all deprecate, therefore, the idea of refusing, even under the pressure of circumstances adverse to the success of the work, giving to those whose property is taken a sum *adequate to its value, but nothing more.* The man owning small and unhealthy and unsound property should have every possible allowance deducted from such property to enable it to be made sanitary, and I would fully agree that you should go so far as to say, when it is in a very bad condition, it should only be looked on as a site and old materials only; but after you have said and done all fairly to keep down the expense you can never hope to arrive at this result, that the measure of the over-payment for the site required is the difference between its reletting or selling value and that which it has cost the municipality to acquire.

By all means simplify the course of procedure by which you acquire the property, doing away with provisional awards, reducing the legal and surveying expenses to a reasonable minimum, and further dealing thoroughly with those fictitious claims set up by a worthless class of men. Having done all this, you must recognise the great cost of such improvements as inevitable, but do not yield to any cry which might create a private injustice. There is a further point where you may justly exercise pressure, and that is, to try and induce landlords not to underlet to middle men who grind the poor, or at least to insist that the conditions of such holdings of property shall be rigidly enforced in the direction of health, with no *overcrowding*, and giving every appliance to the tenants.

Secondly, the question of this disturbance of a settled population is another serious element in the whole subject.

There cannot be a doubt that the working classes get

locally attached to their houses, however humble, and that they dread being shifted, partly from this attachment and partly from the inevitable rise of rent that they are subjected to by the change.

I have repeatedly, in my professional life, had these appeals to be let alone made to me under circumstances of a touching character: the old and infirm dread it, the mother with a large family has great difficulty in being re-housed, possibly some small business requiring connection has grown up in the neighbourhood where they dwell, neighbours are kind and good, as is so often the case among the humbler classes, and all their ties and their habits are broken through by the great clearances of modern times in the Metropolis and elsewhere.

But let us, though recognising the necessity for health and on account of other reasons for such clearances, be fully assured that the transference to the smaller class of suburban dwellings around London will on the whole prove of advantage.

I must express my conviction that after a few years it will be found that much of such suburban building is as bad if not worse than the dwellings from which they have been removed.

Spite the amendment in the Metropolitan Building Act lately made, which will do something to stop some of the unhealthly results of this class of building, I feel convinced that nothing is more urgently wanted than to see that the district and local Surveyors insist on some measure of honesty in the operations of the speculative builder.

It cannot be unknown to many of my professional brethren that many of the smaller class of houses now erected are on inadequate foundations, often on made ground which has been filled in with slop or sludge, with walls of the least thickness permitted, built with mortar and

other material often no better than mud largely entering into their composition, with weak and leaky roofs, with sashes and doors that do not exclude either draught or wet, with ceilings of such material that they so descend on the heads or furniture of the inmates; and if to this class of building you add defective drainage and water supply, often too common, it becomes a grave reflection whether the removal of the people from their old homes is an unmixed good.

Large evictions or clearances of the people are to be avoided, and if property is dealt with in smaller blocks at a time the evil is minimised; and on all accounts I should counsel an endeavour to weed out courts, alleys, or special nests of people known to be specially depraved or sunk in the social scale, and to raise those who do not seem to wish to be housed on a better scale.

Another point which cannot and ought not to be wholly lost sight of is the separation of classes, caused by large clearances, which drive the people into the outskirts of the town or to the east of London, away from the proximity and partial care of their richer brethren and of that higher influence induced, as Miss Octavia Hill has so well exemplified, by the voluntary workers who assist in managing each scheme.

It must not be forgotten, also, that where the family live in the suburbs and the railway accommodation is very cheap, the increase of expense to the family, as a whole, where several members have to use the railway is very sensibly felt. Under all the foregoing considerations I am disposed to advocate gradual improvement of existing neighbourhoods, dealing with special houses and smaller blocks, and not uprooting whole neighbourhoods at enormous cost, as has been effected by the operation of the Act of 1875, though acknowledging to the full the beneficial effect on the health of the people of these great works.

Thirdly, on the further head of my subject as to the body or bodies by which the needful reconstruction of any cleared areas should be effected, I am strongly of opinion it should be left to private owners or associations, or companies, and not be the act of the State. The City of London has in one instance carried out, many years since, a scheme in Farringdon Street with fairly economic results, and has lately taken a contract for covering the Petticoat Lane site, but at prices that would seem to make it impossible to be other than unremunerative. The field of such operations has been extended to private owners, and beyond that of associations and other bodies; and for the State to now step in beyond the legitimate limits of providing funds at a very low rate, on grounds apparently to me defensible, would seem to be both unnecessary and a dangerous precedent.

The nature of the work is peculiar, requiring great economy in the use of material, both in construction and fittings, and it demands the most rigid attention to every detail of what seems a very simple class of building, in order to make a return that will be satisfactory to the capitalist. Though the work of providing dwellings has extended far beyond companies or associations, and has been largely taken up by private owners, it remains to be seen whether the character of the work has not been such in many instances as to require great cost in repair in the future, and thus rob the building of any legitimate profit to the investor, taken over a series of years.

But, at the same time, I do not agree with the statement of the Quarterly Reviewer that the result of the efforts to build workmen's dwellings has resulted in failure financially.

I think the experience of the Metropolitan Association for Improving the Dwellings of the Industrious Classes, the Improved Industrial Dwellings Company, the Artisans, Labourers, and General Dwellings Company, and others show

that a fair percentage can be obtained and a reserve fund established sufficient to warrant a prudent investor putting in his money.

It was my duty to know something of the Artisans and Labourers' Dwellings Company under adverse circumstances, and I then expressed the confident opinion that with care and management it might become a fairly prosperous undertaking.

I have not, purposely, yet referred to the work of the Peabody Trustees, which is special in its character and carried on under the circumstances that strictly impart something of a charitable character to its operations.

Important and beneficent as its extensive agency has been in establishing centres of healthy dwelling in various parts of London, I conceive it has two elements which are of doubtful utility: First, by letting the rooms at lower rents than are generally obtainable, it introduces a charitable, or gift element into the treatment of the working classes; and secondly, it does operate as a competitive element against those other societies or individuals who are compelled to pay a fair percentage to enable them to get capital to proceed upon; and both these circumstances are important factors in the dwellings question.

I do not conceal from myself that the Trustees of that fund believe that they are following the benevolent intentions of the donor by keeping down their rents and by endeavouring to fix the incomes of their dwellers at such a figure as is below that of the artisan class, but it necessarily follows that, as a commercial principle, they somewhat discourage that branch of the supply of humble dwellings, now so loudly called for.

It may be argued with force that by so doing they keep down excessive rents, and so far it is well; but if it should be found that the rate of interest which they are content with

is such that it is not possible to find the private investor or speculator to be content with, they deter others from that general supply of accommodation of a superior character which is much to be hoped for; and careful as the administration may be, it is to be doubted whether often a class of tenant is not admitted equal to paying a fair rent without any contribution to the housing and general support of the family.

I have referred to the question of the non-intervention of the State beyond that of a very limited range, to be adequately justified by its care for the health and physical welfare of the people and the economic and excellent moral results to arise therefrom; but I am bound to offer the suggestion often present to my mind, that if the State, by an alteration of the law, rendered the enfranchisement of leaseholds at once easy, though, of course, on full grounds of just compensation and under fair regulations and restrictions, a great step would have been gained in the construction of healthier dwellings. It stands to reason that when a man is dealing with his own freehold he will, from the very nature of the tenure, erect a much more substantial class of structure and one upon which he is content to receive a lower rate of interest. If you think out the results of experience, and see how great are the evils throughout the Metropolis alone, of building on leasehold tenure, how little interest the parties building have in the property, except to get the lease and raise money upon it, and how that operation ramifies throughout the whole circle of modern building of the class we are specially wishing to benefit, I am sure that importance attaches to the suggestion of being able, in the market, to obtain freeholds in a larger proportion. It would directly operate in favour of the means of housing the artisan classes, and I am not at all clear that it would not be found that many of the best

specimens of these classes would not be eagerly desirous of acquiring their own freeholds.

The difficulty admitted by all alike is the *one point* of sites and the obstacles to obtaining a clear tenure. Often one obstructive lessee stands in the way of the acquisition of a site which would be capable, otherwise, of most advantageous development, and to give on terms, absolutely fair and full, the power of its purchase would be a boon to society at large. There would be another effect of a character very beneficial to the property to which we are mostly referring, and that is, that in many instances, as freeholder, the owner would be induced to live on his property, that he would be more particular both as to the class of tenant and the use of his property, and great care would be taken that the destructive element, which we must acknowledge to exist, does not run unchecked or unrestrained.

The middleman, often obtaining his lease for a short term, and only desirous of gaining all he can and escaping, by some mean subterfuge, from his liability to dilapidations, would have less chance of obtaining properties, and if the owner and occupier had a common interest in preserving the property, one of the greatest evils the working class have to submit to would be done away with, and that is, the fear, if any requisition is made as to repair, at once notice to quit will be given or the rent raised at once on promised repairs, which are often delayed indefinitely if they are ever performed.

Fourthly, I now propose to treat that portion of the subject which may be directly called practical, viz., the character and the extent of the accommodation that has and should be provided, and I would suggest two or three principles in new buildings that seem to me essential, though not always observed:—

(1) It seems desirable to so construct the rooms that

through ventilation from back to front should be possible, and that, as a cardinal point in the planning, the rooms be not laid side by side, but as front and back rooms.

(2) That the staircase to the blocks or dwellings should be open to the air, and that each set of rooms should have its private door as if the staircase was the street, and that open galleries should be avoided as destructive of privacy.

(3) That in every case where it is possible the arrangement of the closets should be on open galleries, or at least entered through a scullery or washhouse, with direct access to the outer air.

(4) That the plan of lavatories and w.c.'s off the staircases is not one that should be extensively followed.

(5) That a simple and inexpensive system of fireproof flooring would divide the floors throughout.

(6) That, when at all possible, some play-yard or drying-ground should be attached to the buildings, and, if possible, washhouses for laundry purposes.

(7) That, in planning the buildings, an effort should be made to enable some rooms to be let off as single rooms, with a power, however, of uniting two or three together if needed.

(8) To preserve as far as possible a cheerful and cottage style of dwelling, as opposed to dull and heavy blocks.

(9) Care should be taken that all the sanitary and other appliances should be of the simplest, yet at the same time of the strongest character.

(10) As a sanitary aid in the construction of such dwellings, that the walls and ceilings be of the hardest material possible, and able often to be cleansed.

The application of these principles is not always easy,

and specially as to the question of single rooms. It cannot be denied that much of the usefulness of this movement would be lost if the plan was largely resorted to of constructing and letting single rooms; but the cost of more than one room has been, practically, the greatest obstacle to the very poor occupying such dwellings, and after the remarkable evidence of Mr. Marchant Williams, one of the Inspectors of the Schools for the London School Board, to the effect that, in the Finsbury Division, there are 10,490 families living in one room only, consisting of 41,044 persons, and that there are 17,210 families living in two rooms only, and consisting of 82,215 persons; this portion of the subject calls for the most careful attention.

Such facts as these make it gravely worth consideration whether it is not possible to design and execute at a lower rate than hitherto a class of dwellings having some sort of privacy in the sleeping relations, and yet much cheaper in execution than a system of divided rooms; and the idea has occurred to me that, supposing you extend somewhat the area of the common room, and have a series of partitions moveable, either made to hinge or slide, by which you could form *bed-closets*, the partitions not going absolutely to the ceiling so as to interfere with a free circulation of air, but by a little intelligent contrivance on behalf of the designer to render possible a division of the sexes, and at the same time in the daytime to enable such partitions to lie back against the walls.

It would be a mistake to consider that the progress in supplying improved dwellings for the industrial classes has been small. It must be patent to all who know London that private enterprise has, in many parts of the Metropolis, supplemented the work of societies and associations.

In Clerkenwell, Newington, the Kent Road, Newport

Market, Tooley Street, opposite Reed's Brewhouse, on the edge of Farringdon Street, and elsewhere, blocks of buildings have been erected, substantial in character, some of them showing good financial results, and affording healthy and comfortable homes for the better portion of the artisan classes; and when we come to inquire into the work of the various associations and societies, we must be hopeful that an effect appreciable and material both as to the health and comfort of the people has been attained.

Taking the reports of 1883, furnished by the societies, I find that the Metropolitan Association for Improving the Dwellings of the Working Classes, which was, in a measure, the pioneer in the movement, being its 39th report, are housing 5,984 persons, with a death-rate as low as 17·2 per 1,000, declaring a dividend of 5 per cent., and possessing a reserve fund of £15,000, with a total capital account of over £250,000. I am glad to report that this association have it in contemplation to erect some sets of dwellings of one and two rooms only, to accommodate tenants of smaller means than their average as now built.

The Improved Industrial Dwellings Company report that with their works in hand they will house about 25,000 persons, having 4,814 dwellings, 140 shops and workshops, with a capital account of about £900,000 and a rent-roll of £100,000 per annum in round numbers, the sanitary condition of the dwellings receiving careful attention.

This company also manages 153 improved dwellings belonging to private persons and to another association.

The Artisans, Labourers, and General Dwellings Company, which develops estates in a somewhat different way, has a large work in hand. Considerable areas of land, like that at Shaftesbury Park, the Queen's Park, and Noel Park, are purchased, roads formed, and cottage dwellings erected capable of accommodating a single family, but the houses

are wisely planned of greater and lesser size to meet the wants of different classes.

This company, possessing over 4,000 houses, having a capital and liabilities of over a million and a quarter of money, is now proceeding to cover Noel Park at Hornsey, and has a present rent-roll of over £55,000 per annum. Taking a low average of five persons to a house, the present population must be 20,000, with a large prospective increase.

The Peabody Fund are doing a large and beneficent work.

Up to the end of 1883 they had provided for the dwelling of 18,009 persons in 4,359 separate dwellings, with 692 of one room each, 2,073 of two rooms, 1,521 of three rooms, and 73 of four rooms. They have expended £1,089,883 12*s.* 6*d.* on land and buildings, with a net gain on the year from rents and interest of £25,252 16*s.* 2*d.* The death-rate was 18·60 per 1,000, the birth-rate was high, and the infant mortality low.

It is right to state that the average weekly earnings of the head of the family was £1 3*s.* 8*d.*, and the average rent of each room, 2*s.* 1¼*d.*, such rent including the free use of water, laundries, sculleries, and bath-rooms.

Such a record does not pretend to exhaust in any way the accounts even of the associations in existence.

I have referred before to a block of buildings erected by the Fishmongers' Company in Walworth, which contains 255 rooms, including a few shops, in ten blocks of dwellings, and, taking an average of five to a family, probably containing 1,275 persons in residence. The peculiarity of this block is that the cottage system has to some extent been preserved, as the buildings are not high, consisting only of four stories, yards being preserved in the rear.

I have also to record an experiment made at the foot of Southwark Bridge to bring the homes of the working classes

close to their daily avocations, and of which I accompany some drawings.

In another instance I have to record with pleasure an experiment made by some friends and myself, where, in Lever Street, City Road, a block of buildings has been erected, not unattended with fairly commercial results, where the plan is wisely adopted of a personal supervision of the dwellings by ladies, and a kindly communication kept up with the tenants, thus assisting in the idea so admirably maintained by Miss Octavia Hill and her band of workers.

I mention these few individual results to illustrate how possible it may be, in many neighbourhoods of London and elsewhere, to initiate schemes which may have a good and beneficial tendency.

It is only right now that I should just touch on the cost of such a class of dwellings as is erected on the block system.

According to my recent experience, from £50 to £55 per room should be the cost of the building, and the outgoings should not exceed, all told, the sum of 34 per cent., or thereabouts, and if looked at by the foot cube, from 6½*d.* to 7*d.* should be about the price. With respect to the rentals to be received, about 2*s.* per room must at least be looked for to make the investment fairly remunerative, leaving a fair margin for contingencies, the land being acquired at 3*d.* per foot gross area, or 6*d.* net area in average cases.

I will now draw these considerations to a close by summarising to some extent my convictions on the subject.

Though the Government have properly and naturally yielded to the desire for a Royal Commission on the subject, I am not very sanguine of any great addition to the knowledge of the subject being possible.

The difficulty of the matter is admitted on all hands; you have a large and densely-packed population, often obliged

to live near their work, with precarious earnings, only too prodigal in times of prosperity, but kindly-natured as a whole, living in conditions and under circumstances which to them are not objectionable, as, whether from ignorance or custom, they do not realise the manifest unhealthiness and squalor of their surroundings.

On the other hand, there is a class of men largely benefiting by the subletting of this class of property at very high rents, and withholding from the tenants even necessary and decent repairs, and sanitary appliances.

To meet this last point, an active and searching use should be made of all the sanitary laws and agencies which are provided, and for the execution of which a most competent machinery is necessary; but in addition to this, you have a class of property hopelessly bad which it is right should be closed unless it is remodelled or rebuilt. It must be admitted, I fear, that the action of clearances for the erection of new buildings on a large scale, though radically good on the ground of health and morals, has pressed in special neighbourhoods hardly on the poor, has increased overcrowding at least temporarily, and has largely added to the rating of neighbourhoods where the pressure is already great.

On the other hand, there is good ground for encouragement in much that has been done, and I doubt not will be done with a growing consciousness by an enlightened people of the mischief they have endured, and also, I hope, by the increasing sense by the landlord class of the claims of large masses of the people to be protected from extortion and other evils.

Let the whole subject be lifted above class or party feeling, and, by carefully gaining experience from past mistakes, tread cautiously on the lines of progressive improvement, even though it may appear to be slow in its effects.

The physical and moral health of the people of this country can never be a matter of indifference to those who are imbued with the highest principles of morality; and on these grounds I commend the subject to your careful consideration.

Mr. R. Vigers (Fellow) rose with great pleasure to propose a vote of thanks to Mr. Chatfeild Clarke for his very careful and able Paper. There were some few points in it with which he did not quite agree, but, on the whole, he thought that the author had treated the question in a very fair and business-like way.

First, with regard to the clearance of sites. Mr. Clarke seemed to think that the best way of dealing with unhealthy sites would be to operate on smaller areas than those proposed under Sir Richard Cross's Act, and dealt with by the Metropolitan Board of Works. His own view was, that in practice it was found almost useless and impossible to follow this plan, and his experience dated from the time when the Peabody Trustees first endeavoured to obtain sites in very bad neighbourhoods and to build on them.

They found that if they purchased a small site they were unable to erect good buildings upon it, on account of the claims of the adjoining owners in respect of lights and other rights which they, the Trustees, had no power to get rid of. The Peabody Trustees also found that it was very costly, and indeed almost impossible, to manage small sites. It was quite clear from experience—and there were gentlemen in the room with great experience in dealing with these matters, who would confirm it—that, however clean and healthy might be the dwellings that were built, without careful and proper supervision they soon fell into the same

dirty state as those they replaced. This would be found to be the case very recently with some of the buildings erected on sites that had been cleared by the Metropolitan Board of Works.

It was therefore very desirable, on practical grounds, to get as large a site as possible, so that proper supervision might be provided at a moderate cost. He quite agreed with Mr. Chatfeild Clarke's remarks about the buildings and the various arrangements connected with them, but he thought it had been shown from experience that it was not necessary to adopt any one particular plan. Sir Sidney Waterlow's plan was very good, and so was the plan of Mr. Gatliffe, who was one of the first movers in this question. Mr. Darbishire (architect to the Peabody Trustees) also had a very admirable plan, and one much liked by the people.

There were persons who were in the habit of asking for proof that the labouring classes were really desirous of better buildings and better domestic surroundings. The best reply was to point to the many thousands of good dwelling-rooms which had been erected, every one of which was occupied. What better argument could there be that the poor labouring classes wanted good rooms, and would use them if they were provided.

Sir Richard Cross's Act was a very valuable measure, and he believed it was conferring a great benefit upon all classes; but it was not intended for the thrifty mechanic who could pay a big rent, and enable those who took up the scheme to secure a high rate of interest on their outlay, and create a large reserve fund. The Act was intended to benefit the extreme poor—the men with low wages and large families.

The public had been told that to work the Act was very

costly. Apparently it was very costly. It left a very large sum of money for some one to pay, but he contended that the Act operated in the interest of the public at large, and that the improvements at which it aimed were as generally beneficial as street widenings and similar improvements; and looked at in this light, the cost was, he maintained, moderate, considering the great good effected.

He would give some figures which, he thought, would tend to correct the public misapprehension with reference to the cost of sites cleared by the Metropolitan Board of Works. There were six sites sold to the Peabody Trustees —one in Bedfordbury, one in Great Wild Street, one in Old Pye Street, one in Pear Tree Court, another at Whitecross Street, and another at Whitechapel. These were very good sites, and were cleared by the Metropolitan Board, no doubt at a large cost, namely, £734,766, representing a total area cleared of 677,971 square feet. The Board used for street purposes 164,309 feet of land, which at cost price came to £180,557. They reserved for trade purposes 98,539 feet, and their Surveyor valued this at £109,406, leaving the cost at £444,803. The Peabody Trustees gave 5*s.* a foot for 415,121 feet, namely, £96,541. This showed a loss to the Metropolitan Board of £348,262, and not, as stated in the newspapers, £643,461. He contended that this was not a cost that the general public should be frightened at.

Allusion had been made in the Paper to increased rates. The fact had been that the sites that were dealt with by the Peabody Trustees were previously rated at £9,986 a year. The new sites produced a rateable value of £13,311 —a benefit to the public at large of £3,325, which, multiplied at twenty years' purchase, amounted to £60,000.

Another point, and a very troublesome one, was what was

the best way to cover the sites after getting them cleared. He agreed with Mr. CHATFEILD CLARKE that they should not be cleared hastily; the doing so would result in the loss of a very large amount of interest, and if the site was cleared before the money was available for putting up the new buildings great injury was done in the form of increased crowding in the interval.

But it was a very serious question where the money was to come from. The six sites bought by the Peabody Trustees at a cost of £100,000, in round figures cost £500,000 to cover. Thus the cost of the land was only about one-sixth of the total cost, which left a large additional sum to be provided.

At the present moment there was a disposition among the well-to-do classes to do anything to assist such an object if only some practical course could be indicated. He ventured, therefore, to throw out the following suggestion for consideration. Assume a large property to begin with — say, for example, the property of the Peabody Trustees. Their property, according to their published report, appeared to represent £1,200,000. Why not issue debentures on that security? No security was better than land and buildings of that class. The rents came in every week, and under careful and proper supervision there would be less loss on that class of property, and far less variation of rent, than on any other property that could be mentioned. It was always occupied, and interest might be paid quarterly or half-yearly on the debentures at the rate of 3 per cent. The rents would produce a very large sum, and, as there was no means of using the income derived from such property but to reinvest in buildings, why not as he had said issue debentures at 3 per cent., and so raise the money required? There were hundreds of persons who would be

willing to assist such a scheme, and who would be satisfied in knowing that they were doing good to their fellow-men, and at the same time earning a safe 3 per cent.

Towards the end of his Paper Mr. Chatfeild Clarke said he found the rent of the rooms should be about 2*s.* per week, but he (Mr. Vigers) was afraid that if Mr. Chatfeild Clarke looked at the returns of the institutions which had been paying 5 per cent. he would find that such a basis would not enable them to pay any such rate of interest. Three shillings per room was nearer the figure according to their reports, and this was rather a large rent for a man earning only £1 or 22*s.* a week.

Mr. Chatfeild Clarke explained that Mr. Vigers probably reckoned the cost of the rooms in a different way; were the sculleries taken into the price or treated as separate rooms?

Mr. Vigers said in the case of the Peabody Buildings the 2*s.* 1¼*d.* per room included the use of all apartments —one room, w.c., lavatory, bath-room, laundry, and all appliances. To bring down the rent to the sum given by Mr. Chatfeild Clarke it would be necessary to count the washhouse as a room, and this made the difference between the prices.

Mr. Chatfeild Clarke said that was so.

Mr. H. H. Collins (Fellow) said he rose with great pleasure to second the vote of thanks proposed by Mr. Vigers.

In the main he agreed with the views expressed by Mr.

Clarke, but there were one or two points in the Paper and in the remarks of Mr. Vigers to which he should like to refer.

He was not a great admirer of the buildings erected by the Peabody Trustees, and his opinion of them had not qeen improved by a recent visit to the neighbourhood of Golden Lane, where whole streets of these "barrack-buildings," to quote Mr. Chatfeild Clarke's expression, had been erected. An old woman to whom he remarked on the change from the old hovels and narrow streets, replied, "Ah! it is all very well for you to talk, but how would you like to go up six pair of stairs every time you want to get into your dwelling?" He confessed to a strong sympathy with the woman, and could not but admit the justice of her complaint; and when the fact was considered that, according to Dr. Wallace of Glasgow, there were only 196 days of sunlight in England during the year, the immense shadows cast by these enormous buildings over the adjacent streets was a matter of some moment.

He thought three or four stories was quite high enough for buildings of the kind, nothwithstanding the cost of the land, which, in most cases, was so great that any private individual who wished to build, and expected to get 5 per cent. out of rentals of 2*s*. a room, would find himself woefully mistaken.

Another fact in connection with the Peabody Fund and large associations of that character was, that they tended to discourage contractors or builders from coming to the rescue. Take the instance of Essex Road. There were several large sites, a portion of which was taken by a private individual under grievous restrictions which had to be considerably relaxed by the Secretary of State. What occurred there? An adjoining site was purchased by the Peabody Trustees,

and builders to whom he applied to take the remainder naturally urged that it was hopeless to compete with a wealthy charitable organisation who could afford to let their buildings at average rentals of 1*s.* 11*d.* a room.

Architects who had to plan buildings of this character knew that it was impossible to build so as to return 5 per cent. on the invested capital without charging 3*s.* to 3*s.* 6*d.* a room. He had had some experience in the erection of buildings of the kind and had tried plan after plan in endeavouring to produce one that would give a renumerative return for the capital invested at the low rentals necessary to procure the desired results. Mr. VIGERS very rightly considered, and the author of the Paper had done so likewise, that, although these buildings should be planned with great simplicity, yet they should be strongly built and furnished with all essentials of the best character, but which were necessarily costly.

It was wise, in these cases, not to be too stingy in the first outlay, and thus tend to reduce the 34 per cent. at which the repairs had been put; but the first cost meant a large sum of money. How, then, were builders to be financed with these facts staring one in the face? Money could not be borrowed from the Public Works Loan Commissioners for less than 4 per cent. Would Mr. VIGERS, to put the point to a practical test, advise any client of his to lend money on such precarious undertakings? Would he not rather counsel him to put his money elsewhere? It was all very well for large companies such as those mentioned in the Paper, but, as he had said, builders found great difficulty in getting the money for the purpose. It was not the duty of the State to undertake the work, but it was its duty to encourage it, and not to discourage it by multiplying restrictions and by charging a rate of interest for loans which practically killed all private enterprise.

The author had urged the desirability of taking steps, "even by altering the kind of local authority, if need be, to administer efficiently the Acts in respect of buildings." The Metropolis Local Management Act under the 73rd Section, gave, in his opinion, ample powers to insure that all houses were properly inspected. The Act required that no house should be occupied until after it had been properly inspected and certified by the local authority. The difficulty was the expense of doing this. The ratepayers naturally called out about the army of inspectors required, and complained of the great increase of rates which would be occasioned; but, as a matter of fact, no further legislation was required. All that was wanted was to see that the local authorities did their duty. There was a great danger of over-legislation in connection with this subject.

He might mention that the Ecclesiastical Commissioners, who had a large property of a dilapidated description in the Borough (an account of which had gone the round of the newspapers), had let it to builders, and advanced the money to enable them to deal with it, spreading the repayment over 30 years at, he believed, 3½ per cent. Whole streets would be erected, and there were buildings now in course of construction, three stories high, by Mr. Pink of Westminster. That was the kind of encouragement required, and a step in the right direction.

As to the question of planning, a section similar to Mr. Chatfeild Clarke's was already in use in Glasgow, the recesses referred to being divided off by curtains, and occupied at night-time with beds, but he thought the system very unhealthy, and very insanitary in fact.

With regard to the question of single rooms, so long as they were dealing with the very poor, with their utterly insanitary habits, which nothing but education and improved

moral conditions would overcome, single-room dwellings were undesirable from a commercial point of view, since it would be impossible to get any of the more respectable class of tenants to occupy them and so raise the character of those about them.

Mr. R. W. P. Birch (Associate) said he had no practical experience of the subject, although he took the warmest possible interest in it. He must say he regretted very much that the conclusions at which the author of the Paper had arrived were not more definite. He had dealt with a very gentle hand with everybody except the unfortunate railway companies. He (Mr. Birch) had more to do with railway companies than with owners of property, and he felt that the author of the Paper had treated them somewhat hardly. He did not see why gentlemen who put their money into railways should be required to do the good work which the prosperous condition of the big towns made it really the duty of the citizens of those towns to do. The author had practically admitted that labourers' dwellings could not be profitably erected in the central parts of London, where land, as Mr. Vigers had shown, had to be paid for by the Peabody Trustees at the rate of 5*s.* a foot, but he had not shown sufficient reasons, he thought, why dwellings of the kind should not be multiplied in the suburbs, nor was there any reason why the valuable work of supervision carried on by Miss Octavia Hill, whose name every one honoured, could not be equally well carried on in districts like Lambeth or Battersea, where the air was much purer, and, the land being cheaper, houses more of the cottage type could be erected, instead of the barrack type which Mr. Collins condemned.

The author of the Paper was not very hopeful as to any

result arising out of the Royal Commission now sitting. He (Mr. Birch), on the contrary, looked for some advantage from its labours. If it did two things well, it would do very useful work. If the Commissioners ascertained for themselves, and made clear to the public, how far all these working men who were living five in a room had to travel to their work,—for, unless their work was close to them, it seemed to him quite unjustifiable that they should be huddled together in that style,—and if they further ascertained, and made known to the public, who were the owners of the rooms which were let to four, five, and six people to live in, so that public opinion might be brought to bear upon them, and, if necessary, laws be made under which such a state of things would be no longer possible or profitable.

Mr. Julian Hill (Visitor) had not come prepared to speak: but, being a director of the Metropolitan Association for Improving the Dwellings of the Poor, he might mention a few points comprised in his experience. But before he began he thought he should be neglecting his duty if he did not do honour to the name of the Secretary (Mr. Charles Gatliffe) of the Association to which he had referred. It was now 40 years since he first saw Mr. Gatliffe at his father's house (his father being one of the original directors); and to his (Mr. Gatliffe's) energies he thought it was due that things were brought into the state in which they now stood.

As Mr. Chatfeild Clarke had said, the Association paid 5 per cent., but had they begun by erecting such well-contrived and admirable buildings as those which Mr. Chatfeild Clarke had lately put up for the Association at Hoxton, though they could not have paid more than

5 per cent. (as their Charter prevented their doing so), they could, at any rate, have extended their operations. But they tried many experiments, and their first experiment was with Parliament, their Charter costing them £1,100 in those days. Then they deliberated a good deal over the subject of lodgers, and he must say he had not given up the subject. A great deal of the immorality of the present day was due to houses being crowded with lodgers. It was well known that one-third of the working classes were constantly moving about. The artisan was engaged in building a house, perhaps, at Hammersmith, while his home was at the East-end, and for the greater part of the week the man had to get a lodging near his work.

They had, therefore, tried to provide for lodgers and had built a club, but it was a sad failure; and his own belief was that the failure was because his predecessors had a little neglected to go thoroughly into the wants of lodgers, one of these wants being that the working man wanted his clothes mended nearly every night. The club was a failure, and they had had to write off a great deal of money as a loss in respect of it, but he was, nevertheless, inclined to try it again.

His Association had several two-storey cottages at Spitalfields, built generally on the plan of giving one floor (the Scotch plan) to each family, with an inside or outside staircase, and these cottages were very popular and well filled.

They had also some such buildings at Penge. In early days they were very anxious to build in the country, for they wanted the working man to breathe fresh air, and in those times the railways were very anxious to help and would have given them very liberal terms, but they could not get the people to go; and the reason was this, that as long as the

working man's family was in London, his wife was earning a good deal, perhaps, in closing the uppers of shoes, and the children were also earning something, and if you put him, say, at Enfield, this money could not be earned. Sir Sidney Waterlow was strong on that point. He said that where dwellings were put in crowded districts they were immediately filled, but even in such a neighbourhood as Deptford they filled but slowly. It was also found that four-roomed dwellings did not let as well as three-roomed dwellings, and on their Board they had much dissatisfaction in feeling that they had not, in fact, reached the class that most wanted reaching. If they charged 6*s.* 6*d.* a week they had not even reached the man who was getting 15*s.* a week. That was a problem which, he thought, was most difficult of solution. They could not build good buildings with sanitary appliances, with water, ventilation, and light, which was a most important thing after all, within the reach of the man with very moderate wages.

There was one thing which the public were in error about. They talked of clearances intensifying the evils of overcrowded districts. He lived in Westminster 35 years ago, and took great interest in the poorer districts. These districts were then as crowded as they could be, and there were not more people in a room in these districts now than then, nor were the houses a tenth part as miserable now, for they have drainage and water-supply, which formerly they were without. No doubt clearing away houses created great distress for the time being, but the people cleared away would not go into hovels as wretched as those which they had left. Gentlemen present who were familiar with estate management well knew that when a man left a farmhouse, the new tenant would not put up with what

the old tenant and his fathers had put up with before him, and the same held good with the worst parts of London. The effect was to break up the man's miserable home, to give him the chance of a lift, and so to induce him to raise himself in the world, and that he held to be a great point gained.

The vote of thanks having been duly put to the Meeting and carried unanimously, on the motion of Mr. C. K. Bedells the discussion was adjourned to the next Meeting.

No. 210.

AT

THE ORDINARY GENERAL MEETING,

Held on Monday, May 5th, 1884.

THE PRESIDENT, MR. T. SMITH WOOLLEY, IN THE CHAIR.

The adjourned discussion on the Paper by Mr. THOMAS CHATFEILD CLARKE (Fellow), read at the Ordinary General Meeting of Monday, April 21st, 1884, entitled "Improved Dwellings for Labourers and Artisans," was resumed by

Mr. C. K. BEDELLS (Fellow), who said that, although it was desirable, perhaps, that the views of specialists should be subject to revision by those who took a more general view, he thought it better, as a rule, that not only the reading of Papers, but the opening of the adjourned discussions, should be in the hands of specialists, and for this reason had at first felt some hesitation in moving the adjournment on the last occasion.

There was a great deal in Mr. CHATFEILD CLARKE'S excellent Paper with which he entirely agreed, and on most of those points he would be silent. But there were other points on which he might, perhaps, be permitted to slightly differ. He agreed with Mr. CLARKE that one of the most important points to secure was a strict enforcement of existing sanitary legislation; and with regard to the dwellings of what he might call the better class—the skilled artisan class—his impression was that a strict enforcement of the laws applying to existing buildings, as to the providing of

sites, facilities for cheap loans, and with regard to the obligations resting on those disturbing the artisan and labouring classes to make some provision, at any rate, in the way of sites for their replacement, would be found very nearly, if not quite, sufficient. But he was altogether satisfied that something much further would be needed to house the actual labouring classes—the unskilled. He failed to see that any one had been able to provide dwellings for the classes earning less than 20*s.* a week on anything like remunerative terms. Amongst the facts that had come within his notice bearing on the subject he would adduce one or two by way of illustration. He found that there were dwellings in the neighbourhood of Baldwin's Gardens built on a site for which 5*d.* per foot was paid. The rents were, for one room 2*s.* 6*d.*, and, for two rooms, ranged up to 6*s.* 6*d.* with a common wash-house. This was entered upon as a *bonâ-fide* speculation, and pays 7½ per cent. There had been a little relief given lately to that class of buildings by the waiving of the inhabited-house duty (which, in the case referred to, was avoided by taking away the iron gates at the entrance of the staircase), also by the composition for rates. But he found that the average wages of those inhabiting such blocks of buildings were 25*s.* In another case, in Dorrington Street, the ground-rent was 6*d.* a foot, and the rents ran from one room at 4*s.* to two rooms at 9*s.* 6*d.*, and these, again, were occupied by a better set of artisans, and were quite remunerative. At Whitechapel, on the contrary, the same builder took ground at 4*d.* a foot. He let two rooms at 6*s.* 6*d.*, back rooms 5*s.* 6*d.*, and wash-house to three tenants, and the cost of building was 5*d.* to 5½*d.* a foot; but the tenants were of an indifferent class, reckless and destructive, and the whole speculation was not remunerative, and he declared he would never build similar buildings again in the east-end.

Another case, just the reverse of this, was a block of

houses almost wholly inhabited by policemen, who were a superior class of men, paying for one room 5*s.* 6*d.* a week. The net return in this case was 15 per cent., and there were generally a hundred policemen waiting to go in if they got the opportunity.

There was, he had been informed, a scheme for housing, in Great Wild Street, at least one thousand persons who had been disturbed, and he was told by one who ought to know, and who had employed an inspector to go round the whole of the district, that out of one thousand persons displaced there were not ten who entered the building provided for them. So there was another problem to solve—how, after building improved dwellings, under regulations and inspection, to get the birds to enter the cage.

To take another instance. Some time ago the Duke of Bedford let a site for this purpose, at the very low sum of 1½*d.* a foot ground-rent! It was taken up in shares, and he believed the Duke took a large portion of the shares himself, in the first instance, to float the concern. That scheme now had a secretary and directors, paid dividends, and the shares were always bought up readily; but, on examination, it was found that the original purpose was defeated—that high rents were charged, and that there was considerable overcrowding. This would show how absolutely necessary it was that there should be inspection of these dwellings. Recent investigation into the condition of the London poor had disclosed this result, that it was not simply in the small cottages that one found overcrowding and insanitary conditions, but in many houses that had a good frontage, three or four stories high, and situated in comparatively respectable streets.

As to the cost of clearances, he noticed that there was a considerable discrepancy, pointed out by Mr. Vigers, between the reputed cost of some of the Metropolitan

clearances for this purpose and what he gave as the actual cost. He thought those discrepancies might be reconciled and explained by the fact that in all probability Mr. VIGERS did not take into account the great loss of interest during the five, six, or ten years in some cases, perhaps, that these sites had remained uncovered, simply because at even the very moderate rents at which they were offered nobody could make them remunerative. Then, again, it was not only the loss entailed in that respect, but these clearances, by the additional amount of rates which had to be paid by those houses which remained, became oppressive. His office happened to be in the united parishes of St. Andrew Holborn, and St. George, Bloomsbury, where Theobald's Road had been cleared for a number of years, and he could, consequently, speak from experience as to this increase in the rates. As to the disturbance of the population, he thought that the disturbers, a Railway Company for instance, should make some provision, in whole or in part, for the inhabitants of the demolished buildings.

As to the sum that should be paid for property in an insanitary condition, he thought that the high rents obtained by overcrowding should not be taken into account in assessing the compensation, but that the amount necessary to put them into a sanitary state should be deducted from the compensation money. But this would not secure a site in or near London at a sufficiently low rent—for instance, in the case of premises which he had cleared for other purposes—say, in Aldersgate Street, where the value of the ground was a great deal more than the rack-rents which were obtained for many years before for those poor and unsatisfactory dwellings. He did not think it would be right to assess compensation, therefore, on the rack-rents of the dwellings taken, minus such a sum as it would take to put them into a sanitary condition in such cases.

With reference to Mr. Chatfeild Clarke's third head, —the way in which such projected improvements should be carried out, and by what body they should be effected,—he would confine the external aid purely to the question of the site and nothing else, wherever it could be shown that the property when put up could not earn, say, 5 per cent. Take, for instance, the City venture in Pear Tree Court. Nothing they could ever get for those buildings would pay any reasonable interest, and in such cases, where it was necessary to rebuild in a neighbourhood where the ground-rent was such that it could not be remunerative, he thought external aid from the municipality or the State might be given; but he would leave the question of the dwellings of artisans, whose wages were about 20*s*., to private enterprise, or nearly so, and not to State or municipal enterprise.

As to the fourth head,—with regard to the character of the work that had been done,—his own impression was that, so far as it had gone, although the progress was such as one would gratefully recognise, yet what had been done hitherto had scarcely met the increase of the population, quite apart from the insanitary condition into which many of the modern buildings had come, or would very shortly come.

Coming next to the requirements of the buildings, he thought Mr. Chatfeild Clarke's suggestions were exceedingly useful to any one contemplating that kind of erection. A practical man who had had a good deal of experience in these matters had informed him that he found it very necessary to make all his waste-pipes trumpet-mouthed, his reason being that things were often put down the pipes which could not be got out, and if the lower or further end of the pipe were much bigger than the end nearest the sink, this difficulty was avoided. He also spoke of a coat of cement on the walls as being a good thing, and his experience led him to use

match-boarding in a horizontal direction up to four or five feet high, putting the tongued edges of the boards downwards, and painting them with very thin paint, so as to stop up every crevice in the first instance; and he maintained that in this way one did not, as one might expect, harbour vermin, and it was, perhaps, the most suitable lining for dwellings that could be employed. Bedsteads knocking against the walls made holes in them, and holes meant refuges for vermin. Another point was the use of Portland cement concrete for steps. Of course, there was exceedingly hard wear in these places, and the gentleman in question said he had used, side by side, Portland stone and Portland cement, and breeze steps or landings, and the latter were much more durable.

The author had spoken of one-room division as desirable for the poor. There were many present, no doubt, who had seen this week's *Builder*, in which there was a one-room plan, with two bed recesses in it, which, he thought, would somewhat, if not entirely, meet Mr. CHATFEILD CLARKE'S view. He found the Americans had a special plan, and he recommended friends studying the subject at all to look at a recent number of *Harper's Magazine* for April, where they would find a great deal of American experience on the subject. They adopted what they called the "dumb-bell" plan, which showed some advantage in regard to light. The rooms in the rear were placed at the level of the half-landing, which it was maintained secured much greater privacy than when they were put on the level of the other floor. In future investigations of the subject, he would recommend all those who had the opportunity, to look at the *Contemporary Review* for February, where they would find, he thought, two or three of the most instructive articles on the subject that could possibly be met with. On looking at Mr. DARBISHIRE'S Paper on the subject he observed that he put the

cost per dwelling at £173; per living and bedroom £72 6*s.* 6*d.*; and per room, including laundries, sculleries, bath-rooms, and dust-cellars, which were in common, £54 14*s.* 8*d.* There was a note in the Paper referred to, stating that this did not include anything for site, boundaries, playgrounds, or fences, so that it must be regarded as simply the net building. He said that the average rents of the buildings erected by him were 2*s.* 6*d.* for one room, 4*s.* 6*d.* for two, 5*s.* 6*d.* for three, and 6*s.* 3*d.* for four rooms; and, after allowing 30 per cent. for all expenses, the returns were almost 5 per cent., and he observed that he mentioned that 3½ per cent. was the utmost income derivable from the buildings to cover land and all. He allowed no underletting or lodgers.

In the *Contemporary Review* there was an interesting statement as to the remarkable increase of rental in London per head of the population in a series of years from 1831 to 1883. It seemed that in 1831 £3 15*s.* per head of the population was the average rent paid in London, and in 1883 it was no less than £8 15*s.* per head of the population; whereas in Paris it was only £6 10*s.*, and in large provincial towns, all of which were given, much less. Bearing in mind this tremendous increase in rental on landed property, it seemed reasonable that such property should contribute something towards the remedying of overcrowding.

There were some other statistics which were also valuable, viz., the proportion, in reference to income, which different classes of the community paid as rent. It appeared that the rich, on an average, paid 10 per cent. of their income for rent; the middle classes, 20 per cent.; and the working classes, no less than 25 per cent. of their income for rental. The essayist came to the conclusion which he (Mr. Bedells) had come to, that one could not provide for the labouring classes without aid, and he made some suggestion that unclaimed dividends should be appropriated

for that purpose, though he (Mr. Bedells) did not see that it was fair to appropriate to London, money that was got from the whole of the country. It was also suggested that the fund of a million or more belonging to unknown depositors in the Post Office Savings Bank should be applied to the same purpose, and also that certain incomes of City Guilds to the extent of £550,000 per annum besides what was subject to the Charity Commissioners, should be laid under tribute for this purpose. He observed that Mr. Hoole, in the same number of the Magazine, gave his experience of this class of house, and assumed a rental of from 2*s.* 6*d.* to 2*s.* 9*d.* a room, whereas the average according to most writers should not exceed 1*s.* 6*d.* a room for unskilled labourers.

Then he made a statement that he could pay 5 per cent., but he noticed that he provided no sinking fund. The rental which artisans in America paid seemed to be 1½ dollars per room, and they were suffering, perhaps, quite as severely as those in London from overcrowding. In fact one statement given to him was enough to startle one, and it was this—that in New York in 1873 during the hot weeks of the year the deaths were at the rate of 250 per thousand per annum of the juvenile population in one particular street or block of buildings.

There were one or two suggestions which he should like to make, in the direction of remedial measures, which he thought might tend to a better state of things in housing the poor. One was cheap railway fares. He thought the population of London might be more widely diffused. He confessed he should like to see the people housed in the suburbs, and he thought the buildings should not be more than two floors in height, and of a cottage character. He was delighted to see drawings on the walls designed on this principle. He knew from experience that this class of

building was exceedingly popular, and he held also that improved houses had a good educational effect. Four or six roomed cottages would generally be taken by the rather superior mechanic, and such a tenant would take in some younger friend as a lodger, and the influence on him would be, generally speaking, good.

He would give an instance of some property at Walworth, showing how remunerative and satisfactory this class of house really was in that district. He was Receiver, appointed by the Court of Chancery, for an estate in that district, and amongst other property there were seven small houses at Tatum Place which yielded results of a very remarkable kind. He rendered his account of the property, and it so astonished the Chief Clerk in Chancery that he said he thought he must have made some mistake, for the rental for the year actually exceeded the gross amount of the whole weekly lettings supposing there were not a penny lost, as he had £2 to the good, representing arrears belonging to another year. The houses consisted of six rooms, and were let at 11*s.* a week for four of them, and 9*s.* a week for the others, and he did not think they were ever empty for the seven or eight years he had them in charge under the Court of Chancery. He thought one-roomed buildings could be built in the same way on two floors, and it would be a great advantage.

Some years ago he built some houses for the Drovers' Benevolent Association, and for the Friendly Female Society —a sort of charitable institution for decayed gentlewomen,— which were occupied on the condition that the friends of the ladies should contribute £10 per annum, the Society then allowing them houseroom, coals, and certain contributions per week. Everything was done in the nicest possible way—in the one case they were aged men (drovers), and in the case of the ladies there was no

overcrowding, and the single-room system was found to be a good one.

In the next place he thought the overcrowding might be ameliorated by the removal of trades which need not necessarily be carried on in London (for instance, the printing trade of reprints, the bookbinding for the wholesale trade) in these days of telegraph and telephone, could be just as well carried on within five or six or eight or even twenty miles of the Metropolis. He also looked to emigration for some relief, and trusted that by its means wages would be increased, and the housing of the poor better provided for. He did not desire to overlook the gentle ministrations of Miss Octavia Hill, and any one who read her book would feel that such ministrations were beyond all praise.

How then were lower-class buildings to be provided? He thought that one-third of the cost of the ground-rent might well be paid by the City, or Municipality, or whatever it might be, and one-third by those who caused the disturbance—such, for instance, as a Railway Company—and the ground-rent (for those buildings could pay some) might be put at one-third of its proper value. If that were done—if the enterprise were aided in this way—he thought that the least one could expect would be that there should be very strict regulations and supervision on the part of the Government. All the accounts for such buildings as these, aided or partially aided, should be open to inspection, and wherever they showed a profit of more than 5 per cent., the additional income should be returned to the Municipality. He believed in this way (if at all) provision could be made for the poorer classes in London.

Mr. R. Vigers (Fellow) said the figures he gave on the last occasion referred to six sites cleared by the Metropolitan

Board of Works, all of which were purchased immediately they were cleared, so that there was no loss of interest.

Mr. E. Ryde (Past-President) desired, as one who took part in the discussion of a previous Paper on this subject, read by Mr. Chatfeild Clarke before the Institution fifteen years ago, to offer a few observations with reference to the advance which this question had made in that interval.

Taking a fair and candid view of the matter, he thought that most men of experience would agree with him that the dwellings of the working classes of the present day were, on the whole, superior to those of fifteen years ago. But the change was not only in the houses, but also, he ventured to hope, in the people themselves. Certainly they were better educated, though the effects of this better education would not be fully seen until the older generation of men and women had passed away, and the younger ones had entirely taken their place. He looked to the education of the people for the improvement of the homes of the people, and had no faith in legislation for the purpose.

He had always represented to working-men in his own village that if once they acquired a habit of being tidy in small things, they would soon acquire the habit of being tidy in all things. The man who learned to scrape his shoes before entering his house soon came to appreciate the comfort of cleanliness in his home. Cleanliness, like dirtiness, was to a large extent a matter of habit, and would come with improved education and the force of surrounding example. The condition of the poor was, he believed, improving; if not very rapidly, as rapidly, perhaps, as could reasonably be expected, taking all the circumstances into consideration.

While agreeing in the main with Mr. Chatfeild Clarke's excellent Paper, there were one or two points in it

in which he did not concur. He could not understand, for instance, how a Railway Company that did not want to come into these expensive places with its line, but was generally driven into them by the force of circumstances, could in fairness, be expected to clear a site and expend a large sum of money in housing the working classes. He had had some experience in these matters, and was prepared to assert that the people turned out from dirty hovels by Railway Companies would not go into the clean new houses which a Railway Company might be compelled to build in place of them, preferring to go from one dirty place to another dirty place. He should be sorry that it should go forth as the opinion of the Institution that Railway Companies taking dwellings of any kind should be compelled to find other sites for the dwellers displaced. By all means make the Companies pay (and that was not a new principle) the full compensation provided for under the Lands Clauses Acts, but it was surely unfair to ask for anything more. Railway enterprise was not too remunerative already, as would be seen by statistics. The total capital invested in Railways, in 1883, was £767,900,000, and the net earnings on that money represented 4¼ per cent.; which being partly rent of land and partly profit of trade, was unremunerative.

After all, there was no better regulator of this and every other arrangement than the free operation of the natural law of supply and demand. The persons who desired to occupy, and who were willing to occupy, these better residences, preferred their own arrangements to any that could be made for them, and were as little disposed to brook interference as any other class. It came to this. If a man earning wages could not be housed at the rent his wages would bear, he could not live; and the result was that whoever demanded the man's services must be prepared, in some way or another, to provide him with a house.

Reference had been made to what the Duke of Westminster had done towards providing better dwellings for the poor, but had not many landlords throughout the country built large numbers of workmen's cottages in obedience to the necessity for housing the workmen on the farms? And in the same way the demand must be met by supply elsewhere.

The author of the Paper spoke in very guarded language, but he let it be seen that he had an inclination towards a measure for the compulsory enfranchisement, as it was called, of leaseholds. He (Mr. Ryde) altogether failed to see how a measure of the kind would be likely to benefit the working classes. The great advantage of the leasehold system was that it made all the tenants conform to covenants intended for their mutual benefit and protection, instead of leaving each man free to injure the property of his neighbour.

He would not go into the question as it affected the better class of houses, but how would such legislation operate in the case of houses for the poorer classes? The speculating builder, who owned a large number of working-class houses in London, got every farthing he could out of the people, and spent as little as he could on the houses if they were freehold; but if they were leasehold, he was compelled to do some repairs by the covenants of the lease, or forfeit it. Go to any newly-developed district, say, the neighbourhood of Woking Station, near to which he resided, where the land was mostly freehold and,—he said it with deep regret—it would be difficult to find a worse-built class of houses anywhere. There was no control, and each man did what he pleased. Therefore, he believed that the leasehold system protected rather than injured the interests of the poorer inhabitants.

Mr. G. R. Crickmay (Fellow), after complimenting

Mr. Chatfeild Clarke on the able way in which he had prepared his Paper, said that it appeared to him that the essence of the Paper was: "We are in a difficulty—we want a remedy—will somebody come and help us?" He rather inclined to Mr. Ryde's view, that what was wanted was to educate the poor people and make them self-dependent, instead of looking to paternal legislation, for if they were provided with houses the next thing they would ask for would be to be provided with food. He did not see where the system was to stop, or at what class. The poor clerk was as badly off, and often much worse housed than some of the working classes, and if the working man was to be assisted it would be necessary to go further and provide houses for other classes. It would be a very unfortunate thing for the Government to take up measures for housing any one class of the people, and much better to leave it to private enterprise.

There were several points in the Paper which applied to the houses not only of the working class, but to the houses of all classes, and he thought it was rather a pity, in the present state of affairs in England, to say anything to set one class of persons against another.

There was also a word or two to be said about a very useful class of men who could not very well be done without—the landlords. Something had been said about their avariciousness, but he imagined that houses, like everything else, fell under the operation of the law of supply and demand. If a railway had to be constructed, the persons compelled to sell their land got the best price they possibly could for it, but if such further and such onerous conditions were imposed upon Railway Companies, men would be slow to invest their capital in such enterprises, and no class would suffer more by the arresting of their development than the working classes.

As to the provision of sites, he thought it had become evident from the present discussion that land in and around the City in crowded localities was too expensive for the erection of houses for the very poor, and, consequently, the way out of the difficulty was for the Companies to charge a very low rate for the conveyance of artisans to the suburbs when houses would be erected there for their accommodation; but this could be brought about by private enterprise without the interference of the State.

With reference to the fourth head into which Mr. Chatfeild Clarke had divided his subject, he thought drying-yards and recreation grounds should be provided by means of a flat on the top of the roof.

As to the last point mentioned by Mr. Ryde—the enfranchisement of leaseholds—he differed from him, notwithstanding his vast experience in matters of the kind. He thought that the enfranchisement of leaseholds would confer a great benefit on the working classes and all classes of this country, and hoped sincerely that, not such a measure as had been recently proposed in Parliament but, some adequate measure would be proposed and become the law of the land.

Mr. Rowland Plumbe (Visitor) said he should hardly have ventured to address the Meeting did it not happen that he had been, for the last two or three years, largely concerned in the erection of dwellings for the classes referred to in the Paper.

He was disposed to agree with the author's view, as he gathered it from the Paper, that the great difficulty was to provide suitable accommodation for the poorer classes in London itself at anything like a remunerative rate, except by the erection of the large barrack-like buildings to which objection had been urged by previous speakers.

How was the present overcrowding to be lessened? He had no belief in the efficacy of paternal legislation for the purpose, or, as a matter of political economy, in such funds as the Peabody's Trust, wisely as the money at the disposal of the Trustees was, no doubt, expended.

He believed, on the contrary, that the difficulty could be dealt with on purely business principles, and was prepared to show that, without driving the poor into the clutches of the speculative builder, they might be provided with comfortable homes at a rent which they could pay. He was prepared to adduce instances where a large amount of money had been spent in providing dwellings for the labouring classes in the immediate neighbourhood of London. These dwellings consisted of 4-roomed cottages, two storeys high, with front gardens, fair-sized drying grounds at the back, and wash-houses separated from the living-rooms—and they paid a good percentage—at a rental of 6*s.* a week. Cottages could also be erected in two flats, of three rooms each, suitable for two families, with a detached wash-house and w.c. common to both tenants, for 4*s.* 6*d.* per week each flat. This had been done in a large number of instances, and within the last few years he had been concerned in building nearly 2,000 cottage dwellings many of which were of the former character. At the present time he was engaged in building about 400 houses of the same description, to let at 6*s.* a week; some of the larger and better class at 7*s.* 6*d.* a week; and some, as he said before, at 4*s.* 6*d.* a week each tenement—in two flats. The houses of three rooms, at 4*s.* 6*d.* per week, had also a back staircase from the first-floor rooms to the back gardens, and another staircase with access from the front. Those operations were being carried on on a purely business footing, without extraneous help of any sort, by a large Company with fresh capital of from £100,000 to

£150,000 a year, subscribed by shareholders alone, but the operations were so quietly conducted that the Company was hardly known outside the body of shareholders.

He did not desire to attack the Railway Companies, but could prove that they neglected a very important source of income in not meeting the overcrowding by cheap fares, so as to enable the working classes who might be willing to leave the overpopulated districts to settle in the suburbs. It was instructive to observe the scale on which different classes of the people paid for their railway accommodation. The first-class passenger, from a district he had in his mind, paid 8*d.* for an ordinary ticket and 1*s.* 1*d.* for a return ticket, and for a three months' return ticket, £1 19*s.* 5*d.* For that sum he could travel backward and forward as often as he liked in a cushioned carriage, with only five other companions, for seven days in the week. This was at the rate of 6*d.* per working day. A second-class passenger paid 6*d.* for an ordinary ticket and 9*d.* for a return, or £1 8*s.* 11*d.* for a three months' ticket, which was at the rate of 4½*d.* a working day, for which sum the second-class traveller could use the line as often as he liked for seven days a week. The artisan, on the contrary, who would be only too glad if he could get a season ticket, was refused, except by the Midland Railway Company, any facilities of the sort, the Company actually requiring him to pay 8*d.* a day for travelling to his destination and back once, unless he chose to use the workman's train, which ran at about five o'clock in the morning, which was cheaper. But, as a matter of fact, the great class of which he had been speaking, and who required increased railway facilities, were not artisans who had to go to their work in the early morning and come back late in the evening, but a class like mantua-makers, seamstresses, and other piece-workers, who had to deliver and

fetch their work at various hours in the middle of the day, and perhaps more than once a day, and had no facilities given them for railway travelling at such hours, at rates they could afford.

If Railway Companies could only see that it was to their interest to give third-class travellers a monthly return ticket, at prices fairly proportionate to the first and second class single fares, they would find the advantage in increased receipts. Any one who travelled on the suburban railways in the middle of the day, out of the ordinary hours of coming and going from business, found stagnation and empty carriages. But if third-class return tickets, such as he advocated, were given, he ventured to predict that the carriages would be filled in the middle of the day, and a very remunerative class of traffic would be developed, and there would certainly be less difficulty in persuading the poorer class to migrate to districts where rentals could be charged that were within their means, and thus help to break the monopoly which produced such lamentable overcrowding.

Mr. F. C. Kettle (Professional Associate) observed that third-class weekly workmen's tickets were issued by the Great Eastern Railway Company at one penny each journey, and every facility was given to the working man who desired it, to have a cottage out of London.

He looked with aversion at anything in the nature of State aid, and did not believe that working men desired it. As a rule, they preferred their independence, and many a working man within his knowledge paid his few shillings a week to a building society, and became a householder, an ambition which State aid would have a tendency to destroy, or, at any rate, seriously diminish.

Mr. W. Eve (Fellow) quite agreed with Mr. Chatfeild Clarke that great advantage would accrue from inducing the working classes to migrate into better dwellings in the suburbs, but to secure this an increase in railway accommodation was requisite. The great obstacle was the unwillingness of the Railway Companies to allow the working classes to use the "Workman's Tickets" beyond certain hours in the morning or before a certain hour in the evening. No doubt the object of the Companies was to keep the trains more select during certain hours, but this might, he thought, be met, if necessary, by putting on special carriages for the purpose, and, as Mr. Plumbe had said, there were many persons who required to come into town during the hours when the Railway Companies precluded the use of these particular tickets.

The author alluded (on page 324) to building sites made up with slop or sludge, but under the Act obtained by the Metropolitan Board of Works in 1878 all such foundations had now to be concreted.

Mr. Chatfeild Clarke explained that he referred to buildings erected before the passing of that Act.

Mr. Eve (resuming) was not prepared to regard the draughts to which Mr. Clarke referred as an unmixed evil in this class of houses. The evil was, rather, the want of ventilation.

It was of no use to provide decent houses for the poor until they were desirous of having them. Mr. Chatfeild Clarke had spoken of their improvement socially, morally, and religiously, and it was their improvement in these respects, quite as much as the size and construction of their houses, that was needed to cure the present terrible evils.

Already, as had been pointed out, there were plenty of places where cheap houses could be obtained. He knew of some six-roomed houses let at 6*s.* 6*d.* a week, including a wash-house. What could be wanted cheaper than that? Again, there were 6-roomed houses with 16 feet frontage let for 7*s.* a week. The first were within four miles of the Bank, and if the Railway Companies could be induced to give those facilities which had been referred to, it would go a long way to remedy the present state of things. All the speakers had agreed, as well as Mr. Chatfeild Clarke, that the want was not met by the erection of large blocks of artisans' dwellings in London, for they were let, and could only be let, at such a rent that they did not meet the requirements of the class for which they were designed, and who, as had been said, when turned out, preferred to go, not into the new dwellings, but into more miserable hovels than those they had quitted.

With regard to Mr. Chatfeild Clarke's suggestion of moveable partitions, his experience of this class of tenants was that they were the most destructive of any that could be met with, and nothing of the kind would stand much user by them.

What was also wanted was, in his judgment, not further legislation, but more efficient enforcement of existing sanitary laws. With this, and increased railway accommodation, much of the present evils would, he believed, in time disappear.

Mr. H. C. Newmarch (Professional Associate) entirely endorsed the views of Mr. Eve with reference to moveable partitions and breakable things of that description, which encouraged people to waste, for any loose material which they could lay hands on was, he considered, undesirable in

these dwellings. There were plenty of builders who would be willing to erect dwellings for the poor, and did so in some cases with very satisfactory commercial results; but the difficulty was to obtain areas on which they could build with profit.

It was essential to a large proportion of the working-class population of London to live in the immediate vicinity of their work, and as long as the work remained they must live near it. This was the class that suffered by the clearing of sites previous to the re-erection of other dwellings, and were compelled to pay rents as high as 5*s.* a week for a single room, say, in the neighbourhood of the Strand. Any scheme for clearing areas in populous districts should, he thought, be accompanied by some provision, charitable or otherwise, for housing the resident population during the period of operations, instead of driving them to crowd still more closely together in other already overpopulated neighbourhoods, as was now the case.

Mr. Chatfeild Clarke, in reply, begged to express his thanks for the kind way in which his Paper had been received. He did not expect, nor was it likely to be the case, that every remark he had made, or every principle he had put forward, would meet with approval at all hands.

Two questions of principle had been raised by Mr. Ryde in opposition to those which he had enunciated in his Paper, but he had given careful thought to what he had said, and was not prepared, therefore, to yield his opinion altogether. Mr. Ryde, speaking on behalf of the railways, had stated that their capital in this country amounted to between seven and eight hundred millions sterling. If this was so, it seemed to him a sufficient reason for his (Mr.

Clarke's) contention that property so enormous, and representing so large an interference with the dwellings of the poor, should bear some part of the burden of so good a work as that they were discussing. The Railway Companies had been in the habit of running through the middle of the poorest neighbourhoods, for the natural reason that they were the cheapest. They developed their line and sold their surplus land, very often at a much larger value than was anticipated when the land was purchased, turning out a large number of persons to whom it was essential to be near their work, and (a point which should not be lost sight of by practical men) not only displacing the bread-winners, but also the children who earned subsidiary wages, and thus depriving the family of the common fund by which they maintained themselves in decency, and often in comparative comfort. Therefore a Railway Company coming into London,—not doing a great public work on public grounds, but in order to put dividends into the pockets of the shareholders—should have certain reasonable conditions imposed on them and not be permitted to unhouse the respectable class of artisans without providing certain areas of land, not at a fancy, but at a reasonable price, for the re-erection of dwellings in lieu of those destroyed.

Then, as to another point that had been touched upon—the enfranchisement of leaseholds. He had endeavoured to deal with this question without bias, and solely with reference to good building. Could any practical architect or surveyor doubt for a moment that the general character of building on freehold was better than on leasehold, the owner naturally taking a deeper interest in it? But looking at the question from a larger point of view, what was for the general welfare of the State? For example, when the

leases on the large estates into which London was parcelled out began to drop in, what an unnatural state of things there would be! Surely it was desirable to be wise in time, and to allow the enfranchisement of leasehold property, though, if need be, under strict regulations so as to obviate damage to surrounding property, and, as he had stated in his Paper, on equitable terms of compensation, and with nothing like confiscation of any sort or kind.

With regard to points referred to by Mr. VIGERS and Mr. BEDELLS among others, he believed it to be practicable, and it had been proved by experience to be possible, to build to pay at a rental of 2*s.* per room, and he hoped no one would go away with the impression that this could not be done; that is, assuming that not too much was paid for the ground, and that the work was done economically all round.

The great difficulty was to provide for the very poor, but as Sir SIDNEY WATERLOW had very well said at the beginning of the movement, directly the artisan is lifted from a poor house into a better one, the class below him gets the benefit of a slightly better house so vacated, and the improvement thus goes on in successive steps. He believed that the man would confer one of the greatest conceivable benefits on society who succeeded in producing a house at a rate sufficiently cheap to enable, not the artisans, but the labouring classes below them to be housed at a fair rent.

He was strongly of opinion, and it seemed to be the feeling of the Meeting, that the State ought not to interfere beyond aiding with loans at a low rate of interest, and thus secure for private enterprise a safe return for its investments. The whole subject demanded careful and continuous study as vitally affecting large classes of society.

The President said, one thing was certain, namely, that the subject had been very ably treated; and, though no solution had been found for a problem, which was, in fact, insoluble, owing to the vast cost of space in London—how to provide decent accommodation for a family, at a rent which could be paid by a labourer earning no more than 20*s.* a week—some valuable suggestions for mitigating the evil had been made. He was personally very much impressed by the excellent feeling with which Mr. Chatfeild Clarke had handled the subject, no less than by his thoughtfulness and practical knowledge of details. The same remark applied in his (The President's) opinion to the very valuable contributions to the discussion by Mr. Vigers and Mr. Hill on the last occasion.

To him, indeed, as a country Surveyor, it seemed that there was some unconscious humour in the circumstance that so long a discussion had taken place on "Labourers' and Artisans' Dwellings," without any allusion, except incidentally by Mr. Ryde, to the agricultural labourer. In point of fact, the country Surveyors had to deal with the same class of question, and the subject had been with them under more or less active discussion for the last thirty years. Every Surveyor of any standing in the country had long since made up his mind that he was the happy possessor of the best possible plan for a pair, or a block, of labourers' cottages; the prevailing amount of accommodation provided for each family being a good living-room, scullery, and three bedrooms. The number of cottages of this class which had been built during the last thirty years was enormous; and the improvement which had been alluded to by Mr. Ryde, very great, though, unfortunately, very much remained to be done, the accomplishment of which seemed to become every day more impracticable. In the best times,

it was impossible to build decent and durable cottages to pay directly anything more than about 2½ or 3 per cent., even when gardens were thrown in, and the crippled incomes of landowners and farmers must greatly retard any further development of cottage building. To illustrate the extent to which the improvement had gone, he adduced the case of an estate with which he was familiar in a South Midland county. The owner, an untitled country squire, singularly unostentatious and without pretensions to enthusiasm of any kind, expended in about twenty-five years £18,420 in the erection on his estate of 67 new cottages of the class he (The President) had before described, and in addition to the previously existing cottages of similar accommodation. These cottages were let, with gardens, at about 1*s.* 2*d.* per week. This was, no doubt, to a certain extent, an exceptional case, but a very large proportion of the landowners of England had done the same thing on a relatively less extensive scale, and to anyone accustomed to consider cottages of the class in question as essential for the proper housing of the agricultural labourer, the accounts of the thousands upon thousands of the families of town labourers being in single rooms must be appalling.

He must express his full concurrence in the opinions expressed by Mr. Chatfeild Clarke, Mr. Eve, and others, that something more was necessary than mere material improvement in the dwellings of the labouring class, urgently as that was required, namely, their moral and religious elevation, which would seem to be almost absolutely incompatible with the existing state of things.

In point of fact, however, a remarkably high standard of morality was maintained among some of the most wretchedly-housed classes, such, for instance, as the Irish

peasantry of both communions, and it was clear from this that religious influences were not unimportant factors in the problem they had been dealing with.

The Meeting then adjourned.

Paper 123
No. 211

INCLOSURE AND REGULATION OF COMMONS.

By H. H. SMITH (Fellow).

Read at the Ordinary General Meeting of The Surveyors' Institution, *Monday, May 19th*, 1884.

THE PRESIDENT (Mr. T. SMITH WOOLLEY) IN THE CHAIR.

The inclosure of a common means the dealing with all the rights and interests represented, giving to each individual who has a right or interest either an allotment of land representing the value of it, or, where the right of interest is small, a monetary compensation equal to the same. The regulation of a common provides for the adjustment of rights of commons by the setting out and stinting of the same, which are awarded to the persons interested according to the value of such interests; it also provides for the improvement of the common and for the appointment of conservators who manage and govern it.

The word common does not apply only to such places as are usually identified with it, like Wimbledon or Barnes Common, Hampstead Heath or Putney Green, but to any place where the freedom of cultivation is impeded by ancient rights.

There are two principal classes of commons—manorial wastes with commoners' rights exercised over them, and commonable fields, meadows, and woods which belong to different owners, but which are also subject to commoners' rights.

The lord of the manor, or, in other words, the lord of the soil, is the possessor of everything upwards to heaven and downwards to the centre of the earth, except such things as custom, usage, or grant, shall have conferred upon the commoners.

The generally-accepted idea of the origin of manors is, that the king, being in the old times the absolute owner of the whole country, used to make grants of land to certain persons, who in their turn gave to their dependants, such as fighting men, free labourers, and serfs, certain portions of the land in return for services rendered, and kept the rest for themselves. This explanation, which prevails in courts of law, is by no means accepted by those who have studied the subject, and have turned to the field of history to help their investigations.

Rights of common, or rights possessed by persons of taking some portion of the natural products of another person's soil, may either be appendant, appurtenant, in gross, or by reason of vicinage.

These rights of common are described by Mr. Wingrove Cooke as follows:—

"1. The right of common appendant is a right by common law incident to the grant to certain tenants of arable land before the statute "Quia emptores," by which the owner thereof is entitled to the use of the manorial waste for such purposes as are necessary to the maintenance of husbandry.

"2. The right of common appurtenant is a right depending upon a grant, or upon a prescription which supposes a grant annexing to particular lands a right of user of a particular waste.

"3. Right of common in gross is a right depending upon a grant or prescription entitling the possessor to some user of a particular waste without reference to any tenure of land.

"4. The right of common by reason of vicinage is the right which the commoners of certain adjoining wastes have of suffering their cattle to stray over each other's boundary."

In these definitions the word waste is intended to include all lands subject to right of common.

Thus, common appendant exists wherever a man is possessed of certain arable lands in respect of which he has had, time out of mind, common in the soil of another for himself and all those who shall be possessed of the said land.

Common appendant is only appendant to ancient arable lands, not to meadow, pasture, or to a house, and though some part of the land which was originally arable may have been laid down to pasture, still the pleading must be in support of the right of common appendant that the land was originally ancient arable land.

Common appurtenant differs in several particulars from common appendant; the former may be newly granted or created, while the latter must grow out of long usage or prescription, time out of mind. Moreover, while common appendant is only taken and claimed for by reason of ancient arable land, common appurtenant may be claimed for and taken for by any other land, be it arable, meadow, or pasture, or by a house or cottage.

In the case of common in gross the right merely attaches to a man's person, being granted to him and his heirs by deed or being claimed by prescription.

Common because of vicinage, or neighbourhood, is where the inhabitants of two townships lying contiguous to one another have intercommoned with one another— the beasts, in the case of common of pasture, straying mutually into the other's fields without molestation from either.

There are several kinds of common, or, as we may term them, the rights and privileges of one or more persons to take or use some part or portion of that which another

man's lands, waters, or woods naturally produces, without having any property in such lands, water, or woods which belongs, as I have before pointed out, to the lord or owner of the soil.

These rights consist of four classes—

1. Common of pasture, which is the right which one or more may have of feeding his cattle, &c., upon another man's lands.

2. Common of turbary, which is the right or liberty of digging turfs from another's lands.

3. Common of piscary, the right of fishing in another's waters.

4. Common of estovers, the right of taking wood from another's land for necessary purposes, such as building, inclosure, fencing, and firing.

There is also sometimes a common in the soil which gives the right of taking stone, gravel, and sand, and even minerals, from the land of another for the use only of the commoner himself.

When common of pasture is appendant it is generally confined to such animals as are necessary to the maintenance of the husbandry of the lands in respect of which the right is exercised. When the lord of the manor gave to certain persons, or, as it is termed, infeoffed certain persons with certain arable lands, he also gave to the feoffees common of pasture over his wastes for the beasts necessary to plough and work the land, for the feoffee could not work the land without beasts, and the beasts could not live, especially while the crops were on the arable land, without pasture.

The difficulty, however, of ascertaining how many beasts were necessary for the proper working of the land proved so great and led to so many disputes that now the common of

pasture is allowed to as much cattle as the land to which the right is appendant will carry during the winter.

The right of common of pasture, when appurtenant, is only limited to the powers of the grantor. In the case of common appendant, where the right of common of pasture could only be claimed for beasts necessary for the cultivation of the soil, common of pasture appurtenant may be for all manner of beasts whatsoever; and again, while common of pasture appendant is restricted in number, common of pasture appurtenant may be for beasts without number; while in the case of common of pasture appendant the beasts have to be *levant* and *couchant* upon the land, in the case of common appendant they may be kept in any place whatsoever, common appendant being not a manorial privilege, but existing in respect of any land or tenement, even if situate in another lordship. Cooke mentions a case of a single cottage in Lincolnshire having a right of common appurtenant for a thousand sheep, the prescription supposing a grant for the encouragement of habitation in the fen country.

Common of pasture in gross is a right which enables a man without connection or tenure to pasture his cattle on another's land. If a man claims common of pasture for beasts commonable, and does not say *levant* or *couchant*, nor claim in respect of any tenement, he would claim in respect of common in gross.

Common of pasture by reason of vicinage, as I have before pointed out, exists by straying of beasts from one waste to another, and no doubt the original cause of this was to prevent suits for reciprocal escapes from one pasture to another. If, however, there is a common of vicinage between one parish having 50 acres of common and another parish having 100 acres of common, the inhabitants having

the 50 acres cannot put more than a proper number of cattle for depasturing of 50 acres.

Common of turbary, which from its nature can only extend to lands producing fuel, may be either appendant, appurtenant, or in gross.

Common of estovers may also be appendant, appurtenant, or in gross. This common right only extends to the use of a moderate quantity of wood for repairs and firing, and not for building new houses, or firing in places apart from the ancient house.

Common of piscary may be appendant, appurtenant, or in gross, but the fish can only be taken for the commoners' table by lawful nets, and not for sale.

Having now briefly considered the different rights and kinds of commons, we may turn our attention to the several ways by which the rights of common may be extinguished and the lands inclosed.

The extinguishments of rights are enumerated as follows*:—

1. Unity of possession, where the wastes and the privileges of common belong to the same owner.
2. Severance of the right from the land or tenement to which it was attached.
3. Release by the commoner.
4. Non-user through a long period.
5. Destruction of the commoner's estate.
6. Alteration of the commoner's tenement.
7. Destruction of the product subject to common.
8. Inclosure by Act of Parliament.
9. Inclosure by special custom.
10. Inclosure by agreement.
11. Encroachment.
12. Approvement.

* Elton on "Commons." London, 1868.

For the purposes of this Paper, I think it will suffice if I confine myself to those extinguishments of rights which have especial reference to inclosure, viz., the last five of the above list, and for the sake of convenience I will commence with the last-named, viz., approvement:—

Inclosure by approvement means inclosure by the lord. When the lord of a manor granted to his commoners certain lands with rights of common over his waste, he usually had a large surplus of land over and above the wants of the commoners.

By a statute passed in the 20th year of the reign of Henry III., c. 4, commonly called the Statute of Merton, which was extended by the Statute of Westminster in the 13th year of the reign of Edward I., c. 46, and confirmed in the 3rd and 4th year of the reign of Edward VI., the lord had the right, so long as he left sufficient common for his commoners, to inclose or approve his superfluous waste lands. Although some years ago it was hardly possible to inclose under these statutes, owing to the difficulty in most cases of ascertaining what was a sufficiency of pasture and the fact that where a common of estover or turbary existed, the lord could not approve any of the waste, still, during the present century, the importance of these statutes has revived, chiefly from the lapse of the rights of common being exercised. In suburban manors, the rights of common have for the most part been abandoned, the surrounding lands being permanently devoted to building purposes; and in rural districts, owing to the larger farms, a better class of farmers, and higher breeds of cattle, the farmers have not cared to turn their beasts upon the ill-drained and scanty pastures of the wastes.

I now pass on to encroachment. Portions of the waste are often inclosed, and the rights of common destroyed by encroachment. The land is in the first instance inclosed

and taken possession of by some person who has no right to it, but if he succeeds in keeping it for twenty years without interruption, the commoners are barred by the Statute of Limitations from recovering their rights, as also is the owner of the waste, whose right of re-entry is gone.

The General Inclosure Act, to which I shall allude further on, has special clauses providing for encroachment, which do not, however, effect the same if they can prove to have been in undisturbed existence for twenty years.

The commoners and the owner of the waste may agree together to extinguish the rights of common and inclose the waste itself. In this case the commoners give up their rights voluntarily.

This mode of inclosure was often resorted to before it became usual to resort to Acts of Parliament, and as it was considered a public benefit for lands to be inclosed and brought under cultivation, the Court of Chancery frequently compelled one or two unwilling commoners to give their consent to agreements to inclose, when the rest of them, together with the lord, had already given their consents.

This class of inclosure was, however, very rare, on account of the difficulty of getting even a considerable majority in favour of the inclosure, it being very seldom that all the commoners were capable of giving consent at the same time, and it naturally followed that the greater the number of commoners the greater the difficulty became.

Inclosure by special custom is the extinguishment of rights of common by the lord of the manor, or some other person authorised by him, in virtue of a special custom of power to inclose certain portions of the wastes for his own use, as against the commoners who had exercised their privileges there. This power is quite apart from approvement, the latter being a power to inclosure the surplus waste so long as sufficient common is left to the commoners,

and is made entirely for the owner's benefit, whereas inclosures under special customs are generally inclosures by the lord of the manor with the consent of the homage, for the benefit of a new copyhold tenant, the land being held under copy of court-roll, and not being, as in the case of approvement, of freehold tenure.

We now come to the most general mode of inclosure and extinguishment of common rights, which is by Acts of Parliament. These Acts have been so largely and comprehensively dealt with by the late Mr. Richard Hall, in his admirable Paper, read in the Session of 1869-70, that I shall only briefly refer to them. About four thousand of these Acts have been passed at various periods from the time of Queen Elizabeth to the present day, about one half of these having been passed in the present century. The earlier Acts were generally for the reclamation of marshes on which the surrounding inhabitants had rights of common.

In the 29th year of the reign of King George II. an Act was passed for rendering more effectual the inclosing of wastes, woods, and pastures, by which it was enacted that the proprietors of the wastes, and persons having a right of common thereon, might, by mutual consent, inclose any part thereof for planting and preserving timber or underwood. A further Act, 31 Geo II., c. 41, was passed, for amending and rendering more effectual the last-mentioned Act.

In the year 1773 a general Act, 13 Geo. III., c. 81, was passed, for "the better cultivation, improvement, and regulation of the common arable fields, wastes, and commons of pasture in this Kingdom." This Act was of great use in causing a better and more profitable system of agriculture than had hitherto existed.

In 1801 another general Inclosure Act was passed (41 Geo. III., c. 109), "An Act for consolidating in one Act certain provisions usually inserted in Acts of Inclosure, and

for facilitating the mode of proving the several facts usually required on the passing of such Acts."

This Act was passed with the view of reducing the expenses of passing Inclosure Acts. In 1836 an Act was passed called the "Common Field Inclosure Act" (6 and 7 WILL. IV., c. 115), generally known as Lord WORSLEY'S Act, for the inclosure of open fields and pastures.

It was thereby enacted that it should be lawful for the proprietors of common arable meadow or pasture lands or fields, with the consent of two-thirds of number and value of the persons interested therein to inclose the same. All manorial wastes and all common fields in the immediate neighbourhood of London, and some other large towns, were excluded from the operations of this Act. In carrying this Act into practice great inconvenience was often experienced from pieces of manorial waste being found mixed up with the open common fields. In 1843 Lord WORSLEY again brought in a Bill for another general Act for the inclosure of commons, with a view to vesting the Tithe Commissioners, who then existed, with a controlling power over inclosures; and in the year 1844 the Bill was referred to a Select Committee, which, after hearing a large quantity of very interesting evidence, issued a report.

In the following Session, 1845, Sir ROBERT PEEL'S Government passed the present General Inclosure Bill, and established an Inclosure Commission for England and Wales, now called the Land Commission for England; this Act, which has subsequently been amended by a considerable number of other Acts, subjected every variety of common to be inclosed by the Commissioners. Exceptions were made of all lands in the New Forest, the Forest of Dean, and village or town greens, also that no lands within 15 miles of London, and certain specified distances of other large towns, could be inclosed without the sanction of Parliament, which,

however, is now necessary for every inclosure by the Commissioners.

One of the great features of the Act of 1845 was the permission for the Commissioners to set-out portions of the lands for recreation and allotment grounds, or field-gardens for the poor. It was also enacted that the majority in number and value had power to appropriate parts of the land proposed to be inclosed for public purposes, such as the formation of roads and footways and for the supply of stone and gravel; also for the formation of public drains, embankments, watercourses, public ponds, wells, or watering-places, or land for enlarging or making a burying ground or any other purpose of public convenience or utility, or for the general accommodation or convenience of the persons interested.

Considerable attention has in late years been paid to the alteration and amendment of the law of inclosure, and several committees have sat on the subject and have made reports, especially as to the open spaces near London. In 1866 an Act was passed for the improvement, protection, and management of commons near the Metropolis (29 & 30 Vict., c. 122).

In 1876 another Bill was introduced, entitled "A Bill for facilitating the Regulation and Improvement of Commons, and for amending the Acts relating to the Inclosure of Commons."

This Bill provided for the regulation of commons, the adjustment of rights and improvements on the same.

It also provided for amending the general Inclosure Acts regarding the management, &c., of the field, gardens, and recreation-grounds, and several miscellaneous amendments, &c. This Bill was passed in the same year—39-40 Vic., cap. 56.

The process of an inclosure under the general Acts is

no doubt familiar to all present. The owners of one-third part in value and interests make application to the Commissioners in writing on a form supplied by the latter. An assistant-commissioner is then generally sent down, who holds a meeting, hears all the *pros* and *cons*, and makes a report to the Commissioners. They in their turn, if they approve of the inclosure, make a provisional order, setting out conditions as to recreation and allotment grounds, and allotments to the lord of the manor, &c., &c., and state their intention to certify in their annual general report the expediency of such an inclosure.

The provisional order is deposited in the parish, and the assistant-commissioner holds another meeting to take consents or dissents, and if he is satisfied that two-thirds in value consent, the Commissioners report, and the matter is referred to Parliament. If an Act is obtained, the persons interested hold a meeting to choose a valuer; if they cannot agree, the Commissioners may appoint one themselves.

The valuer holds meetings for the receipt of claims, which must be delivered to him in writing. He deposits these in the parish, and if there are any objections they must be served in writing on the valuer and the person objected to by the person who objects.

The claims will then at a subsequent meeting be heard and determined nominally by the valuer, but in reality in almost every case he has the assistance of a legal assessor provided by the Commissioners. The claims being settled, the valuer, having made his valuation, allots, draws up his report and map detailing his allotments, and deposits them for inspection.

An appeal meeting to hear objections, if any, is held by an assistant-commissioner, and when these are disposed of,

the valuer draws up and signs his award, which, when confirmed by the Commissioners, becomes a legal and conclusive document.

The allusion to the valuer's duties in the above brief description does not by any means give an adequate idea of them. There is hardly any class of practice in the profession of a Surveyor, especially amongst its younger branches, which is so interesting, or which makes more calls upon the general knowledge of the individual employed, than the duties of a valuer appointed to carry out an inclosure or regulation of a common. In most cases it will be his first duty to make a complete and accurate survey of the whole of the lands to be inclosed or regulated, and on the completion of the same, he will have to make a detailed valuation of all the lands and common rights with a view to ascertaining the various interests with which he has to deal. He will also have to submit to the persons interested a scheme for roads and footways, and generally to make and superintend the formation of the same, and in many instances, in low-lying districts, he will have to protect against floods the areas dealt with. In short, he will have to try and improve the district by every means in his power. He will have to fence, level, and prepare for use and occupation such portions of the commons as may be set aside for recreation and garden allotments, and he will generally conclude his duties by a complete reapportionment of the whole of the tithe throughout the lands dealt with; and, in addition, he is frequently asked to undertake the settlement of the various claims as to tenant-right and acts of husbandry arising from the complete redistribution of the lands, although this forms no part of his duties of valuer. It must also be remembered that it is the valuer's object in the interests of all parties to carry out his work as promptly

and expeditiously as possible; and, where so many interests are at stake, this can only be done by an exercise of a considerable amount of tact and judgment.

In the evidence taken before the Select Committee of 1844, the amount of land stated to be uninclosed and subject to common rights in England and Wales was estimated at about eight millions of acres,* and by the return of 1874, the total amount of land subject to common rights was 2,632,772 acres, out of a total of 37,157,173 acres; so that, according to these figures, there would have been something considerably over five millions of acres inclosed since the passing of these Acts.

The estimate of uninclosed lands given to the Select Committee was, however, a very vague one, and subsequent returns go to show that it was very much over the mark. According to a return made by the Land Commissioners up to 1876, the total amount of land dealt with by them was 600,000 acres, which was divided amongst 26,000 separate owners, the estimated value of the wastes being £6,140,000. The total extent of land set out for public purposes amounted to 14,107 acres, as follows:—

	ACRES.
For Exercise and recreation . . .	1,758
„ Field gardens	2,195
„ Public quarries and gravel pits . .	823
„ Fuel	1,168
„ Schools and churches . . .	622
„ Burial-grounds	106
„ Other miscellaneous purposes . .	85
„ Public roads (2,000 miles in extent, independent of occupation roads) covering	7,350
	14,107

* *Evidence of the Rev. Richard Jones and William Blamire, Esq.*

	£
The value of this at £20 per acre, being out of the best of the land . .	282,140
Cash expended on the construction of public roads and other public works connected with inclosures . .	473,500
	£755,640

The average portion of land allotted to the lords of manors was 44½ acres, to common-right owners, 24 acres, and to purchasers of lands sold to defray expenses, 10 acres each; there being 35,450 acres sold to 3,500 purchasers.

The smallness of the lots may be accounted for by the fact that, even when the expenses were defrayed by rate, it has always been optional for each person to have the alternative of selling a small portion of his or her allotment.

The 26,000 persons amongst whom these lands have been divided consist of the following classes:—

Farmers	4,736
Shopkeepers and tradesmen . . .	3,456
Labourers	3,168
Esquires	2,624
Widows.	2,016
Gentlemen	1,984
Clergymen	1,280
Artisans	1,067
Spinsters	800
Charity trustees	704
Peers, baronets, and sons of peers . .	576
Professional men	512
Miscellaneous	3,000

The amount of land inclosed outside the Land Commission must, of necessity, be very small.

The return of 1874 showed that in England there were 32,456,742 acres, out of which the area of commons apparently capable of cultivation was 732,518 acres; the area of commons apparently mountain or otherwise unsuitable for cultivation was 967,531 acres; and the area of open field lands was 250,868 acres.

In Wales the total area was 4,700,431 acres, of which the area of commons apparently capable of cultivation was 151,471 acres; the area of commons apparently mountain or otherwise unsuitable for cultivation, 516,945; and the area of common fields, 13,439 acres. Hence we see that out of a total area in England and Wales of 37,157,173 acres, there existed 883,989 acres of common land apparently capable of cultivation, 1,484,476* acres, mountain or otherwise unsuitable for cultivation, and 264,307 acres of open field land.

Thus we see that notwithstanding the inclosures that have taken place since the return, which do not represent a very large acreage, there is a very considerable quantity of land in England and Wales still left uninclosed; and the question arises—a question which of late has been much discussed—whether it is expedient or for the good of the community at large that this land should be inclosed.

There can be no doubt, and I believe it has never been disputed, that, as a rule, the value of land is much increased by its being inclosed; instances are not wanting, and, indeed, I could give you some within my own experience, where land has been doubled, trebled, and even quadrupled, in productive value since it has been inclosed. Nor can the evils of the common field husbandry be doubted, I venture to think, except by persons who have not studied the subject. It has been stated by some authorities that from the time of

* The return states that much of this is, no doubt, capable of improvement for pasture.

EDWARD the Confessor to the middle of the reign of GEORGE III., when the great movement for reform began, agriculture had been steadily deteriorating.

The open farms, with their hundred of strips of arable land, with their right of pasture over a poor and ill-drained waste, the common property of all the community, barely produced sufficient food to maintain the scanty population which was dependant on them. A great part of the land was necessarily taken up with the main roads leading through the fields, with a multitude of driftways leading to the various allotments. Areas of 2,000 acres and upwards were not unfrequently found cut up into pieces of the average size of 3 roods, and the inconvenience and wretchedness is almost beyond description. A very eminent authority* on farming has made the following remarks on common field farming :—

"The only wonder is that, the advantages being so manifest, any parish should be left uninclosed throughout the country. Persons living at a distance cannot comprehend the miseries of the common field. They could hardly credit that a parish containing 1,000 acres should be cut up into 1,200 or 1,300 strips, that the whole parish must be cropped on one course, and that the meadows belonging to one individual from the 1st of May to the 1st of August are afterwards commonable to the whole of the parish. Then there is the loss by trotting from one piece of land to another, the trouble occasioned to the farmer in overlooking a small farm, the certainty of distemper, such as pleuro-pneumonia in cattle or the foot disease in sheep, being disseminated over the whole parish, if once introduced, the impossibility of draining detached half-acres, and the constant source of quarrels from trespassing and ploughing on another's land."

* Royal Agric. Proc., 1854.

Some of the commons, especially the wastes in the neighbourhood of large towns which have not been regulated, are a disgrace to humanity and civilisation. It is only quite recently that I have had to regulate a common in the neighbourhood of London; the state of things that existed there is almost inconceivable. The common was occupied by a horde of the worst class of vagrants, who had erected huts and wigwams, constructed with canvas and the skins of animals all over it; scenes of debauchery and indecency were continually taking place there, even in broad daylight; while the filth, misery, and wretchedness exhibited beggar description. The proper owners of the common rights either could not or would not exercise their rights, and it was with the greatest difficulty that sufficient funds were procured for carrying out the regulation, which was only brought about by the energy and determination of a few individuals.

Although we see that great advantages attach to inclosure, there is another side to the question. It is a question whether the inclosure of commons has not in many instances been attended with great hardships to poor people, who have been deprived of their rights, such as turning out a cow, horse, or donkey, and cutting brushwood. It is true that, in cases where they could substantiate a claim, compensation was given either in money or in a small allotment. But the money was spent, and the allotment almost invariably sold to the large landowners, who, after all, are the greatest benefitors by inclosure. A man who at the expenditure of £4,000 can increase the value of 1,000 acres of land from £1,000 per annum to £2,000 per annum has, of course, enormously benefited himself; but the man who has exchanged his rights of the means of keeping a cow by which he could supply himself and family with milk and

butter, or a horse or donkey with which he might be enabled to carry on a small business, and also possibly the right of taking wood or turves for fuel, or of taking fish for his table, for a small sum of money, or an allotment of land that he is probably soon obliged or is tempted to sell, cannot be said to have made a very profitable exchange.

Indeed, it is alleged by some persons that in some parts of the country the poorer people have physically deteriorated since the commons and waste lands of the neighbourhood have been inclosed, owing to the difficulty and, in many cases, the impossibility of obtaining a proper supply of milk. In many districts, even if they are dairy ones, it is next to impossible to buy milk; the farmers make cheese and feed their pigs with the whey, and will not retail out the milk; and where no small pieces of land are to be got by the cottagers, they are absolutely obliged to go without what, in the case of children, is one of the most necessary requirements of modern life.

The poorer individual, too, who has an interest or rights in a common is without the knowledge how to claim his rights, and has resort to a lawyer, the result being that his compensation is often swallowed up in costs. I have an uncomfortable misgiving that, although inclosures have enriched individuals and the country generally, and have, on the whole, conferred great benefits on districts, they have at the same time been the means of inflicting some hardships on the poorer classes of the community.

It must, however, I think, be generally allowed that, in the majority of instances, by abolishing the evils of common fields, by increasing the value of the land, by carrying out works by which whole districts have been made more prosperous, by saving of time and labour, and by furnishing the country with better and more direct roads and footpaths,

the amount of good produced by inclosures is far in excess of the harm that may have arisen from them.

It, however, behoves the Legislature to be careful in dealing with the remainder of lands now left uninclosed, and not to sanction their inclosure unless the benefits occasioned thereby are shown to be in excess of any evils that might result.

Mr. J. W. Willis Bund (Associate) proposed a vote of thanks to Mr. Smith for his able Paper, and congratulated him on having given, in a very small compass, the law and practice of inclosure in a most intelligible and lucid manner, and a great deal of information for which they would have had to refer to numerous books.

Speaking from the legal side of the question, he thought the accuracy with which Mr. Smith had stated the law was deserving of the highest praise, and also because he had the courage to put forward the notions of Lord Coke and the old lawyers as to the origin of the law of commons in this country—that the King used to make grants of land to certain persons, who in turn made grants to their dependents, and allowed them to pasture their cattle on the waste. This theory was not accepted by modern writers on the subject. They adopted a theory originally noticed by a German professor, of whom a good deal had been heard in England since, and which received its final embodiment in that most interesting book by Mr. Seebohm as to the original ownership of land in this country. It had also received some sanction by Lord Hatherley's judgment in the case of *Warwick* v. *Queen's College, Oxford* (L. R. 6 Ch., Ap. 716), and it was making some way in the legal text-books of the country. As to which was the right theory would be too long a question to go into then, but, whatever was the true

view as to their origin, a great deal of the old ideas of agriculture, which had prevailed in England from the time of Edward the Confessor, as they were told in the Paper, had come down in the existing common rights.

The Statute of Merton had, he believed, done much towards facilitating inclosure, but it had been used by modern inclosers in a way never contemplated by its framer. Lords of manors had bought up or got rid of rights of common, and large tracts of land in the country had been inclosed under it. In the well-known case in Norfolk* the Maharajah Duleep Singh inclosed a large common, and an attempt was made to turn the Maharajah out, but he proved to the satisfaction of the Court that a sufficiency of common to satisfy the Statute was left, and succeeded in retaining the inclosure. The case showed that the popular ideas on the subject of commons required a good deal of rectification. It was always assumed that the public had a right to go on a common. No doubt everybody in that room was aware that the public, as such, had no right to set a foot on a common. The only persons who had a right there were the commoners; and he once astonished a very learned gentlemen by contending that even the commoners had no right there except to exercise the common rights, and that subject to these rights the common belonged to the lord of the manor as much as his private garden and that if the lord and the commoners agreed to do so they could keep every one else off, even if there were no inclosure at all. He was laughed at for saying so, and was told that he talked nonsense; but he maintained that the proposition, even if nonsense, was legally sound. The popular idea of commons was rather run away with by very philanthropic gentlemen, who were anxious that the public should have

* *Robinson* v. *Duleep Singh*, L.R. 11 Ch. Div. 798.

rights which they really did not possess, and it was lately tried to give those rights. A Bill was now before Parliament proposing to give the public, *quâ* public, rights over commons. These clauses had been dropped, but the Bill was still before Parliament.

As to the Act of 1845 in regard to recreation grounds, he would say with great submission that he thought more nonsense was talked about setting out recreation grounds on the inclosure of commons than on almost any other subject. He was sure that many who listened to him would bear him out in saying that where there was to be a large inclosure on some wild Welsh or North of England mountain, to say that a certain definite portion was to be set out for recreation ground was absurd: no one of the persons to be recreated would think of going up there unless well paid to go by some tourist. In or near towns it was different. There some open spaces should be left; but to say there must be a hard-and-fast line in all cases that a certain acreage in proportion to the acreage inclosed must be set out was—he did not like to use a strong expression—one of the greatest pieces of humbug that could possibly be imagined.

Allusion had been made by Mr. Smith to the duties of a valuer. They were very important and onerous and, in many cases, far from profitable, for the time during which an inclosure sometimes lasted was very considerable, and until it was completed the valuer did not get paid. He knew of a case of inclosure where the Act of Parliament sanctioning it was passed in 1864, and the valuer's award was not yet drawn up. All that time the valuer had been out of pocket for money paid for advertisements and such things; and unless an inclosure could be promptly dealt with, it was a very serious thing for a man to be a valuer, and the posi-

tion of valuers in such cases was far from being an enviable one. When persons spoke against inclosure they used the word "inclosure" in too wide a sense. He supposed that any one of experience would agree that it was for the general benefit of every one that those stinted pastures, common field land, should be reduced into individual ownership, however unfortunate it might be from the antiquarian's point of view. An inclosure in that sense everybody was in favour of, but when the word was used in the other sense, and it was said they were going to inclose all waste land, it gave rise to a different question. The whole question had changed during the last few years. When it paid to grow corn in this country there was a strong notion that the great thing was to bring as much land under the plough as possible. There was a good deal of land that had been inclosed that was not fit for growing corn, but was well adapted for sheep, and sheep only. Since the agricultural depression set in, it was found that much of that land was going back to its natural state, and what was wanted was, not that the waste lands should be converted into arable or pasture fields, but that the rights of parties should be regulated so that the land could be enjoyed in severalty, and cultivated for what it was best fitted to produce.

Speaking as a lawyer, he should much regret to see any great change in the law as to commons, for nothing afforded greater facilities for litigation or for more obstinate litigation. He might cite an instance. It arose in Northamptonshire, in respect of a common in that county, and some very ingenious solicitor set up the idea that his client had a right of common over a certain field for so many cows, so many oxen, and two rams, and three *legs*. A ram was supposed to eat much more than a sheep, and he claimed to be entitled to have the right of pasture valued; if one ram was worth

£1, the three-quarters was worth 15*s.*, and thus they claimed the value of so many rams and three parts of another ram. They went to trial, and called evidence to show that the right of common could be divided, and that a ram ate so much more than a sheep; and their leading counsel, now a most learned judge, argued the matter of the subdivision of common right at great length, when the late lamented Mr. Justice Willes, who denied such subdivision could exist in law, said he should like to see the grant of the right of common, and a deed of George II. was produced, written in the old Court hand. "Is there anything earlier?" asked the judge. "Yes;" and then they produced a deed of William III., and then of Charles II. The judge looked at it and said, "Are not you all wrong? Take it and read what it says." And on reading, they found the person who had copied the deed had forgotten to cross his "t" in the later deed, and that it should read "common for three tegs."

Mr. W. J. Clutton (Fellow), in seconding the vote of thanks, expressed an opinion that the sooner common lands were regulated the better—not inclosed, where costly fences might not be necessary, but regulated so that the rightful owners should have their right enjoyment.

Mr. H. S. Milman (Visitor) would make a few remarks on the subject arising from the experience he had had in inclosure regulation proceedings for the last six years, and from the knowledge he had gained from being associated with the excellent profession represented by gentlemen he saw before him, and particularly with the Fellow of their Institution who had just read the Paper, and with The President.

He thought that some of the difficulties of inclosure arose from the general notion that all commons were alike. So far as he had been able to observe, and he had had to deal with commons in all parts, no two were alike, whereas the supposition of gentlemen in Parliament was that Wimbledon Common and a Welsh mountain, being commons, ought to be dealt with in the same way.

He had great difficulty with regard to recreation grounds. Of course, anywhere near a large town, or where there was a considerable population surrounding an open district, it was very desirable that a recreation ground should be made; but where, as Mr. Smith and Mr. Bund had stated, there were extensive mountains and no "public" around them, the setting-out of a recreation ground was simply useless. He could scarcely keep his countenance when he had to ask the people of a Welsh village whether they wished for a recreation ground, and led them to suppose that Parliament would offer them liberty to go five or six miles over hill and dale, and marsh and meadow, to play cricket on the top of a barren heath! Inclosure also should be considered not merely as a matter of inclosing and cultivation of land; but also as a mode of dividing the land in severalty. What he found was desired in Wales and mountainous sheep countries was, not that the land should be taken and ploughed up, but that every man who had a right over a large space of land should have a limited space of it to himself, so as to keep together his own cattle and have the benefit of his own fair and good farming. On very large and widely-extended commons the commoners would be men of different dispositions, and would have different modes of farming and different ideas as to the care that should be taken. A great deal of argument and legislation about land went, like many other proposals for reform, on the supposition that all

men were alike and equally careful; that every farmer who had £100 or £1,000 would spend it on his land and invest it properly; whereas those who were acquainted with human nature and the different parts of the country knew that there might be two men started equally in life on two separate farms, but after a time a passer-by would see at once which was the man who ought to have land to farm and which was not.

In the case of a common where there were, say, six commoners, if three of them happened to be careful men who bought good sheep at the fair, the other three might be careless men who bought scabby sheep there, and all would be put together on the common, and the result would be that the good sheep would be injured by the bad sheep, and the good farmer would not get the benefit of his good farming. On many commons there was a great track, or way, across which strange cattle of all kinds were driven to some neighbouring market. As these cattle passed through they often carried infection with them, and all the care of the farmer who used the common was spent in vain. He found in places like Radnorshire—a county of which he should say one-half was as wild as Zululand as far as cultivation was concerned—large tracts of mountains which were never cultivated at all, and the inclosure wanted there was severalty, the same sort of severalty that existed in the colonies, where a man obtained a sheep-run to himself, not in common with other people, and thus was able to put his cattle and sheep upon it with the knowledge that he would enjoy the fruit of his labours. He remembered being told with regard to commons with which he was concerned in Radnorshire, that as long as the land was common it would not sell at all, but the moment it was changed to severalty it fetched £12 an acre. That he considered a great

improvement. Special provisions were made on his recommendation by the Commissioners, by which parcels were allotted, enclosed, and fenced, with gates at convenient points in order that the inhabitants might use the old tracks from one village to another, and at the same time every allottee of a parcel might have the benefit of his property.

He was very sharply examined in the Select Committee on Commons by some advocates for the liberties of the people in respect of land, and one asked whether he considered that an arrangement of that sort left to the public the rights they had before, and he replied that it did not leave them precisely the same rights, but left them all the rights, even as far as recreation was concerned, which they wished to exercise. He was obliged to point out that the nature of the country should be considered; that these Welsh mountains should not be treated as if they were open spaces near London, but the inclosure of commons should be carried out in respect of their natures and circumstances, which were infinitely various. There was not sufficient discretion left to the persons who visited and became acquainted with the spots. The Land Commissioners had a certain amount of discretionary power, but ought to have more, even if they thus incurred more responsibility. At present, many excellent arrangements which were suited to each case were modified, if not upset, by the extreme anxiety of gentlemen in Parliament to maintain the supposed rights of the neighbouring inhabitants. As Mr. Bund stated, the rights of the mere inhabitants were not by any means founded on law. When any one came before Parliament for the purpose of obtaining an alteration or modification of rights, Parliament was entitled, of course, to make conditions, and

made those conditions in favour of persons who really had no rights before. The cutting up of land into very small allotments was in many cases useless, for the small parcels were apt to fall again into the hands of the few,—the provident and careful.

Many commons worked more harm than good to all concerned with them. To some persons dwelling on the borders of a common it might be of some assistance, but it often encouraged them in a reckless mode of living, injurious not only to the neighbourhood; but also to themselves. He could bear out what Mr. Smith had said, that even near London a common might be made a means of great annoyance to the neighbourhood, and when the annoyance had been of long standing, it was necessary to appeal to the Land Commissioners or legislative authority for its abatement. If any alteration were made, it certainly should consist not in giving new rights of common, but in regulating existing rights and providing that according to the neighbourhood a sufficient space should be left open. Sometimes from ignorance of the locality and its circumstances, unnecessary roads were projected. This had happened in one case where he was working in conjunction with Mr. Smith, and he thought they were the means of preventing the project by carefully going over the ground, and finding that certain tracks, presumed to be for the convenience of the inhabitants, had really been made by squatters and gipsies, of whom the inhabitants would be glad to get rid. The consequence was that the common was now open, with necessary roads only, to the great benefit of a large and rising population.

The inclosure and regulation of commons was one of those many things to which not only professional skill, but a little common sense and careful observation should be

applied, and whatever change might be made in the law, he thought there would be still a good opportunity for the exercise of those qualities in dealing with commons.

Mr. H. H. Smith, in reply, said he was sure that the interesting remarks that had fallen from those who had taken part in the discussion had more than compensated him for any trouble he had taken in preparing the Paper. He only desired to make one or two remarks. He thoroughly endorsed what Mr. Bund had said with regard to the lords of manors and the commoners having the entire possession of the common. People had the most ridiculous ideas about the rights of the public over commons generally. In the very case he had mentioned in his Paper, where a common was such a disgrace to the neighbourhood, people on several occasions wrote to the Land Commissioners to ask them what they were to do with the persons who assembled on the common, and who were carrying on such disgraceful proceedings, and the Land Commissioners said, very properly, that they had no power to act in the matter, but that the lord of the manor and commoners should bear in mind that they had the entire right to clear the people off, and to summon them for trespass if they did not go.

With regard to recreation-grounds, passing along a road in Oxfordshire some days since, he saw a piece of land which seemed to be miles from any village, and in the most miserable condition possible to imagine—in fact, a most desolate-looking place. On asking to what purpose the land was devoted, and to whom it belonged, he was informed "that it was recreation-ground," belonging to a certain inclosure. All he could say was that if that were a specimen of recreation-grounds, the sooner such

grounds apart from towns and villages ceased to exist, the better.

The President begged leave to tender his best thanks to Mr. Herbert Smith for his excellent Paper. Perhaps he (The President) might feel that Mr. Smith had gone a little too far towards confirming the mistaken views of the sentimentalists, as to the damaging effect to the interests of the poor of the inclosure of common fields and common pastures. No doubt, as in all other sublunary arrangements for public benefit, there were some who suffered in a greater or less degree by inclosures; but so far as the commonwealth was concerned, and so far also as regarded the best interests of the communities themselves in which the commons existed, he had no doubt that the inclosures were all but unmixed benefits.

He regarded the fancied physical deterioration of the human race in the rural districts as a pure delusion; though in some manufacturing towns it was, he feared, an unquestionable fact.

No doubt one of the greatest evils of the day was the fact that the poor, even in the country, had but little opportunity of obtaining milk for their children, but this was in no degree the result of the inclosure of commons; it was the very unfortunate but inevitable result of the circumstance that milk-producers could make more profitable use of their milk than by retailing it among their neighbours. The proportion of labourers keeping their own cow was very small in the more recent times of the open field system, as it unfortunately is now, and the tendency of the small properties to gravitate to the possession of the large owners, was at least as strong before inclosures as it has been since.

As to the question of the benefit of inclosures to the community, want of time precluded him from going so fully into it as he might have done; and probably he could not put the arguments for inclosure better than by reading extracts from a work of THOMAS TUSSER, the author of "Five hundred points of good Husbandrie." TUSSER was born about 1520, and though he was in early life a chorister, first at Wallingford and afterwards at Cambridge, spent most of his life in farming in Suffolk or Essex, and was, as is evident from his writings, one of the most practical men who ever occupied land. Those, indeed, who are familiar with his works could not fail to be astonished at his shrewdness and accurate knowledge of the most minute details of farming and grazing. He published, among other things, a copy of verses which he called a comparison between the "champion" counties—by which he meant champaign, or uninclosed, counties—and the "severall," or inclosed, counties. He (THE PRESIDENT) would here interpolate a question to those who were better informed than himself —namely, under what circumstances Kent and the principal parts of Sussex and Surrey were inclosed? So far as he knew, there were no records of inclosure there, as there are in the Midlands and other districts.

Reverting to TUSSER, he would read two or three stanzas from the copy of verses—it could hardly be called a poem —before referred to. Speaking of the "Severall," or inclosed lands, he said—

> More plentie of mutton and biefe,
> corne, butter, and cheese of the best,
> More wealth any where (to be briefe),
> more people more handsome and prest
> Where find ye? (go search any coast)
> than there where inclosure is most.

More worke for the labouring man,
as well in the towne as the feeld,
Or thereof (denie if you can),
more profit what countries doo yeeld;
More seldome where see ye the poore
go begging from doore unto doore?

Then as to the "champion" lands he said—

By Cambridge a towne I doo knowe,
where many good husbands doo dwell,
Where losses by losels doth showe
more here than is needful to tell;
Determine at court what they shall
performed is nothing at all.

The champion robbeth by night
and prowleth and filcheth by day,
Himselfe and his beast out of sight
both spoileth and maketh away,
Not only thy grasse but thy corne
both after and er it be shorne.

Other verses were—

For commons these commoners crie,
enclosing they may not abide,
Yet some be not able to bie
a cow with hir calfe by hir side,
Nor laie not to live by their worke
but theevislie loiter and lurke.

More profit is quieter found
(where pastures in severall be),
Of one seelie aker of ground
than champion maketh of three.
Againe what a ioie is it knowne
when men may be bold of their owne!

The foregoing extracts gave a fair description of Tusser's views; and his homely doggerel expressed, in a more graphic and forcible way than he (The President) could command, his own opinions on the subject. It seemed probable that the verses were written shortly after the disturbances in Norfolk, headed by Robert Ket, the main pretext for which was the increasing number of inclosures. He agreed fully

with the last speaker that, as a whole, the settlers in the outskirts of the ancient forests and large commons were of a degraded and poverty-stricken class; and his opinion was based on his experience of cases with which he had dealt professionally. Indeed, having regard to what Mr. Herbert Smith had mentioned as to the opportunity which commons gave for the prosecution of small trades, he might recall the old story, which many of them may have heard, of two rival hawkers of brooms, living on the borders of a large common, whereon grew great quantities of heather and birch. They are reported to have held this dialogue:—A to B, "I can't think how it is you can sell your brooms so much cheaper than I do, I steal my stuff." B to A, "Oh, I steal my brooms ready made."

He agreed very fully with what Mr. Smith had said as to the extraordinary value of the work of an inclosure, as a school for young professional men. If he might venture to enliven a rather dry subject by another story; he would adduce a case in which a Surveyor had to undertake a duty of an abnormal kind; one which a Surveyor of the present day would assuredly decline if a modern valuer could be found to suggest it. On the day fixed for hearing appeals against an Inclosure Award, early in the present century, the valuer, who might be called Mr. B——, accompanied by his Surveyor, went early to the inn where the meeting was to be held, and saw there, without being seen himself, a local Surveyor, Mr. A——, busily engaged in writing in a red book. Mr. B—— drew back forthwith and gave secret instructions to his Surveyor. Returning to the room he drew Mr. A—— to the window, away from his book, under the pretext of a friendly talk. The Surveyor abstracted the red book, which contained, as Mr. B—— rightly inferred, the data for the appeals on which Mr. A—— was engaged,

tied it to a stone, and threw it into an adjacent fen drain. Mr. B——, seeing the duty accomplished, broke off rudely his interview with Mr. A——, who through the loss of his book utterly failed in his appeals. Vice was triumphant, and those who object to a story with a moral could not complain of this on that ground.

It was many years since that happened, in the "good old times," when valuers, or commissioners as they were then called, were paid, not as now, by contract under strict supervision of higher powers, but by the day; and by some commissioners it was understood that "breakfast over and dinner ordered half the day's work was done."

It was a current belief in Leicestershire that on the commencement of the inclosure of Charnwood Forest a pipe of port was laid in, at the cost of the inclosure, and finished before the business was done. In fact, the inclosure never was properly completed, that was to say, the award was never signed.

Leaving these old stories, however—and he must ask them to accept his apology for the jocular vein into which he had been betrayed,—he thought it might be interesting to some of the younger members—for he did not assume, as Mr. Herbert Smith politely did, that everybody knew all about the actual process of an inclosure—to see the working of the machinery by which the valuer's and his surveyor's duties were accomplished; he accordingly produced a map of the parishes of South Luffenham and Barrowden in Rutland, which showed, so far as Barrowden was concerned, at one glance, both the old and the new state of things. That is to say, by one set of colours the parish was shown as it was with its old inclosures, commons, lammas-land, and common field (the two latter containing together 1,448 acres, divided into 2,600 strips, averaging 0a. 2r. 10p. each),

and by another set of colours, the parish as it was now allotted, with the roads, garden allotments, and recreation grounds, and private allotments.

He would leave the map with the books and papers relating to the machinery of the inclosure, in the Institution for a time, in order that any of their students who desired to understand the process might have the opportunity to do so, under the superintendence of their excellent Secretary.

He might mention that the cost of this particular inclosure, which was, in most respects, a typical one (except that there was costly litigation as to a disputed common), was £2 10*s.* 8*d.* per acre on the land dealt with, including the outlay on nearly five miles of new public roads. In addition to this, however, the allottees would have to meet heavy outlay in fencing their allotments. In the case of the principal owner to whose lot in this case, as in most others, falls all the bad and distant lands, new farmsteads and other costly improvements have to be made, in addition to the fencing, and there was certainly an oversight in Mr. Herbert Smith's suggestion that it was possible for an owner of 1,000 acres of newly-inclosed land to double its value by an outlay of £2 per acre. He would only say further, that in his opinion, whatever the legal rights of property might be on the common pastures and other open spaces, not being commonable arable fields, in the neighbourhood of London and other large towns, they should be commuted, or otherwise so dealt with, as to insure the land being kept open and carefully regulated. The rights of the owners of "lammas lands" to the hay crop in Hackney Marshes and elsewhere near London, were being trampled out in a very literal sense. "Hackney Downs" for instance, though "lammas land," was as likely to produce hay as Trafalgar Square, but it seemed to him that in all such

cases the proprietary interest should be acquired, though not of course confiscated, on behalf of the public. This opinion he held strongly, though it might seem at first sight incompatible with the tenor of his previous remarks on the subject of inclosures; and he regarded the case of Epping Forest as an excellent example to be followed. However much lovers of the picturesque might regret some of the inevitable incidents of the dedication to the public of such a domain, it was unquestionably an enormous boon to the public in every other way.

The vote of thanks having been put and carried unanimously, the Meeting adjourned.

THE ANNUAL GENERAL MEETING,

Monday, May 26th, 1884.

THOMAS SMITH WOOLLEY (PRESIDENT) in the Chair.

Messrs. G. H. LEANE and H. C. NEWMARCH having been requested to act as Scrutineers of the ballot for the Election of Council, the balloting list submitted by the Council in accordance with the By-laws and the record of attendance of the Members of Council were read, and the ballot declared open.

The Report of the Council on the state of the Institution and the Statement of Receipts and Expenditure for the year 1883 were read.

RESOLVED—"That the Report of the Council and the Balance Sheet be received and approved, and be printed and circulated with the 'Transactions.'"

RESOLVED—"That the thanks of the Institution be given to Messrs. R. VIGERS and A. GARRARD for the efficient performance of their duties as Auditors.

RESOLVED—"That the thanks of the Institution are due and be given to the President, the Vice-Presidents, and the other Members and Associates of Council, for the able manner in which they have administered the affairs of the Institution."

RESOLVED—"That the thanks of the Institution be given to Mr. JOHN WORNHAM PENFOLD (the Honorary Secretary), to Mr. JULIAN C. ROGERS (the Secretary), and to the other officers of the Institution, for the able manner in which they have executed their several duties."

A vacancy having occurred in the office of Auditor of the Institution Accounts by the election of Mr. R. Vigers as a Member of the Council, Mr. G. Taylor was unanimously appointed co-Auditor with Mr. A. Garrard for the ensuing year.

The President presented the following Prizes won by Candidates in the Professional Examinations 1884 :—

THE INSTITUTION PRIZE OF £15.

To William Timothy Hall, of Maidstone, placed first in the Students' Proficiency Examination 1884.

SPECIAL PRIZES OF £10.

To Robert Alan Benson, of Clifton, and John Baseley Selby, of London, bracketed equal for second place in the Students' Proficiency Examination 1884.

MR. E. RYDE'S PRIZE OF £15.

To Jonas Marshall Webb, of Cambridge, placed first in the Examination (1884) for Non-Student Candidates for the Class of Professional Associates.

The Ballot having been closed, the Scrutineers reported that the following gentlemen had been elected as

COUNCIL FOR THE ENSUING YEAR.

President.

THOMAS SMITH WOOLLEY.

Vice-Presidents.

EDWARD I'ANSON
WILLIAM JAMES BEADEL
ELIAS PITTS SQUAREY
ROBERT COLLIER DRIVER

Members of Council.

FRANCIS VIGERS
CHARLES JOHN SHOPPEE
THOMAS CHATFEILD CLARKE
DANIEL WATNEY
JAMES MARTIN
WILLIAM FOWLER
HENRY JAMES CASTLE
ROBERT LAKE COBB
ALEXANDER MILNE DUNLOP
CHRISTOPHER OAKLEY
ROBERT VIGERS

Professional Associate of Council.

HON. CECIL THOMAS PARKER

Associates of Council.

SIR FREDERICK JOSEPH BRAMWELL, F.R.S.
LUMLEY SMITH, Q.C.

RESOLVED—"That the thanks of the Meeting be given to Messrs. G. H. LEANE and H. C. NEWMARCH for their services as Scrutineers."

A vote of thanks to THE PRESIDENT for his conduct in the Chair having been passed unanimously, the Meeting separated.

THE SIXTEENTH

ANNUAL REPORT OF THE COUNCIL.

Annual General Meeting, May 26th, 1884.

The Council have been called upon for some years past to comment, in their Annual Report, on a succession of important arrangements leading up to, or resulting from, the Incorporation of the Institution. Their duty on the present occasion is confined to reviewing the practical operation of these arrangements, and to summarising the general results of the year's work.

The addition to the number of Members has been considerably larger than in any previous year. This addition was no doubt due, in some degree, to the impending changes in the terms of admission for Professional Associates, but, as the subjoined analysis will show, the increase has been quite as great in the class of Fellows, which remains for the present unaffected by the compulsory Examinations.

The rapid expansion of numbers in the three years following, as compared with the three years preceding the Incorporation of the Institution is shown in the following table:—

	Hon. Members.	Members.	Associates.	Students.	Total.
1878-79	10	320	146	10	486
1879-80	13	329	155	10	507
1880-81	13	344	164	14	535
	Hon. Members.	Fellows.	Professional and non-Professional Associates.	Students.	Total.
1881-82	12	468	235	27	742
1882-83	13	544	292	38	887
1883-84	13	653	397	58	1121

It is specially satisfactory to note the large increase in the Student Class since the introduction of the Examinations. As it is entirely from this class, under the arrangements to which the Institution stands committed, that the ranks of Membership will be recruited when the system of qualifying Examinations comes into full operation, its growth,

and the quality of those composing it, is a matter of the utmost moment, and the Council trust that all who have sons or pupils preparing for the future duties of the profession will see the importance of securing for them the advantages of an early connection with the Institution through the medium of the Student Class.

The Council record with much regret the death, during the year, of Mr. Jeremiah Mathews, of Birmingham, formerly a Vice-President of the Institution, and a gentleman deservedly respected throughout the profession. They have also to deplore the unlooked-for loss of a valued colleague, by the death of Mr. Virgoe Buckland, who had, apparently, many years of active and useful work before him. The death of Mr. J. Harvey, of Haverfordwest, deprives the profession of one who illustrated its best traditions, and that of Mr. G. Rawlence, of a gentleman whose short career was full of the promise of future success. Notices of these and other deceased Members appear in the Obituary appended to this Report.

It will be interesting to many of the Members and useful to future Candidates to set out in this Report the principal results of the recent Examinations.

During the year, 87 Candidates have offered themselves in the various Divisions—51 at the Preliminary Examination in January and 36 at the Professional Examinations in April last.

Of the Candidates who entered for the Preliminary Examination, 30 earned a pass. The standard reached by the successful Candidates was about equal to that of the previous year, though taking all the Candidates, successful and unsuccessful, the general average was slightly lower. The standard of the Examination will be raised by slow degrees, with the result, it is hoped, of ultimately elevating the level of general education in the junior ranks of the profession.

Of the 36 Candidates who presented themselves for this year's Professional Examinations (as compared with 23 in the previous year), 23 are reported as passed.

Of 12 Student Candidates for the Associateship,		9	passed.
„ 16 non-Students	„ „ „	8	„
„ 3 Associate Candidates for the Fellowship,		3	„
„ 5 Non-Associate	„ „ „	3	„
36		23	

The lower percentage of failures among the first, as compared with the second of the foregoing categories, was due to the difference in the pass number of marks in the two cases—a difference designed to encourage Candidates to enter the Institution through the Student Class. A comparison of the number of passes as between the third and fourth categories exhibits the same result, the object in that case being to slightly favour those Candidates who approach the Fellowship through the Associateship.

It may be desirable, for purposes of future reference, to place on record a brief statistical abstract of the performances of the Candidates in the various Sections of the Examinations.

The total attainable marks by all the Candidates were - - - - - - - - 44,200

The marks earned by all Candidates, successful and unsuccessful, were - - - - - 25,086

Or, 56·75 % of the attainable marks.

The total marks attainable by the successful Candidates were - - - - - 27,600

The marks earned by the successful Candidates were - - - - - - - - 16,995

Or, 61·57 % of the attainable marks.

A result slightly inferior to that of last year, when several Candidates of somewhat exceptional capacity and experience presented themselves for Examination.

The average marks of the successful Candidates exhibit a singular uniformity.

In the Associateship Examination—

The Student Candidates obtained 61·2 of the attainable marks.
The Non-Student „ „ 61·8 „ „ „

In the Fellowship Examination—

The Associate Candidates obtained 61·3 „ „ „
The Non-Associate „ „ 61·7 „ „ „
Or, a mean percentage of 61·53 marks.

The highest individual percentages in 1884 were among the—

Students	67	per cent.,	as compared with	79	per cent.	in 1883.
Non-Students	67	„	„	79	„	„
Associates	63	„	„	59	„	„
Non-Associates	63·15	„	„	80	„	„

The comparison is somewhat affected by the fact that six of the Candidates from the Agricultural Colleges availed themselves of the exemption from Examination in certain

subjects accorded them by the Rules and received pass marks only in respect of those subjects.

Much of the work of the Candidates reached a satisfactory level of excellence, more particularly in the Land Agency Section. But some of it, even in this section, showed insufficient attention to practical details. The Farm Buildings work, for instance, was, some of it, weak in arrangement, and showed want of acquaintance with the preparation of Specifications. The work in the Building Section fell, as a whole, considerably short of the standard which it should, and it is hoped will, ultimately reach, and in this Section, accordingly, the largest percentage of failures occurred. Future Candidates in the Building Section will do well to devote more attention to the principles of Construction and to the study of strains in Iron and Timber, a sound practical knowledge of which is important in view of the special objects of this branch of the Examinations.

As regards the field work the Levelling was in a few cases extremely good, but the books were in too many instances indifferently kept, both in point of form and neatness, and the time was not so good as it should have been The practical Timber Measuring and the Forestry Paper were remarkably well done by a large majority of the Candidates, but the highest merit was perhaps reached in the subject of Sanitary Science.

Bearing in mind the variety of subjects comprised in the Examinations, and the fact that the scheme contemplates a general (though sound) knowledge of them all rather than an exhaustive knowledge of any one of them, the results have fully realised the expectations of the Council.

The thanks of the Council are due to those who have given so much valuable time to the work of Examiners, especially to the gentlemen referred to in the last Report, who, though unconnected with the Institution, have this year rendered further services of the same disinterested kind. It may be permissible to single out for special mention the kind co-operation of three non-professional Members—Mr. Meadows White, Q.C. (to whom the Institution is so much indebted in other ways), Mr. Philbrick, Q.C., and Mr. Michael, Q.C., who undertook between them the arduous duties of the legal part of the Examinations.

Reverting to more general considerations, the finances of the Institution, as will be seen by the Balance Sheet, are in

a very satisfactory condition. The income from subscriptions shows a large increase, while the other principal (though extraneous) source of revenue—the fees for the letting of rooms—still figures for a substantial amount, notwithstanding the tendency of Arbitration and other similar inquiries to move nearer to the neighbourhood of the New Law Courts.

Turning to the other side of the Revenue Account, the current expenditure, omitting exceptional items, is almost identical with that of the year 1882. The exceptional items are the cost of the Common Seal Die and fittings, and of the Library Catalogue, amounting together to £204 17*s.* 6*d.* Against much of the apparent cost of the Examinations for the year 1883 has to be set the fees of the successful Candidates, which are carried to a suspense account, pending their election as Members of the Institution.

The Capital Receipts have been considerable, while the outlay under this head has been but trifling.

The Balance Sheet for the year ending December 31st, 1883, shows the following results:—

Receipts.	£	*s.*	*d.*
Total Revenue. . .	3,090	10	3
Revenue Balance in hand, January 1st, 1883	178	17	5
Entrance Fees carried to Capital Account .	764	8	0
Interest . . .	7	16	0
Capital Balance in hand, January 1st, 1883 .	249	12	11
	£4,291	4	7

Expenditure.	£	*s.*	*d.*
Total Payments out of Revenue—Current Expenses . . .	2,107	19	1
Examinations . . .	114	6	8
Revenue Balance in hand, December 31st, 1883	27	4	8
Total Payments out of Capital—Furniture and Fittings . .	25	3	7
Capital Balance in hand, December 31st, 1883	256	13	4
Investments . . .	1,759	17	3
	£4,291	4	7

It was announced in the last Report that the Stock standing in the names of former Trustees (an office now abolished) was about to be transferred to the name of the Corporation. This arrangement has now been effected, and the opportunity has been taken of consolidating the various Investments and arranging them under the three different heads of Revenue, Capital, and Library Account.

At Christmas 1883, the Investments stood as follows, viz., £2,541 9*s.* 6*d.* Consols on Revenue Account, £960 New 2½ per Cents. on Capital Account, £100 Reduced 3 per Cents. on Library Account, and £200 North British Railway Preference Stock on account of the Crawter bequest.

The sum of £1,000, mentioned in the last Report as temporarily represented by Exchequer Bills, was retransferred to the Institution Account for the purposes of the foregoing Investments.

A summary of the Receipts and Expenditure for the present year, up to this date, is as follows :—

Receipts.	£	*s.*	*d.*
Total Revenue . .	2,993	8	10
Revenue Balance in hand, January 1st, 1884	27	4	8
Entrance Fees. . .	479	17	0
Interest	47	11	10
Capital Balance in hand, January 1st, 1884 .	256	13	4
	£3,804	15	8

Expenditure.	£	*s.*	*d.*
Payments out of Revenue—Current Expenses	1,129	5	5
Revenue Balance in hand, May 26th, 1884	741	9	1
Payments out of Capital	54	5	0
Investments . . .	1,850	0	0
Capital Balance in hand, May 26th, 1884. .	29	17	2
	£3,804	15	8

In addition to the above Cash Balances, the amount of Stock now invested in Consols is £2,541 9*s.* 6*d.*; New 2½ per Cents., £2,982 0*s.* 10*d.*; Reduced Three per Cents., £539 11*s.* 2*d.*; and in North British Railway Preference Stock, £200, the money on deposit at the London and Westminster Bank having been withdrawn for the purposes of investment.

The total liabilities at the present date are about £50.

Among legislation accomplished or attempted during the past year, in which the Institution was specially interested, may be mentioned the abortive Bills of Lord R. Churchill and Mr. Broadhurst with reference to the enfranchisement of leaseholds. The Council were prepared to discuss these Bills; but the course of events rendered their consideration unnecessary during the present Session, though the Members will be afforded an early opportunity of expressing their views on the subject after the Recess.

A Bill upon the subject of the Enfranchisement of Copyholds where the tenant has a right of renewal was ordered by the House of Commons, on the 16th inst., to be reprinted as amended by the Select Committee to whom the Bill had been referred. At the present time either the copyholder or the lord can compel an enfranchisement; the Bill, however, proposes that, regardless of what may be their wishes, an enfranchisement of lands shall be forced upon tenants admitted after 31st December, 1885, the lord being required with this view to give a notice of enfranchisement on peril of his losing all right to any further manorial profits in respect of the holding.

The provisions of the Agricultural Holdings Act have been fully discussed by the Institution, both before and since the passing of the measure, and their operation has been carefully watched by the Council; but the materials are yet wanting for any general estimate of their effects upon the great industry in which many of the Members are so deeply interested.

The long-expected Blue Books, containing the results of the inquiries of the Royal Commissioners on Technical Instruction, have made their appearance within the last day or two, and call for some notice in this Report on the ground, if for none other, that they give a full prominence to the Examination System of the Institution, in a statement furnished by the Secretary. But the publication has a further interest to an Institution composed so largely of Land-Agents in the singularly able and exhaustive sectional Report by Mr. H. M. Jenkins, the Sub-Commissioner appointed to inquire into the means and methods of Agricultural Education in the United Kingdom, and on the Continent of Europe.

It would be out of place in this Report to do more than refer in general terms to the recommendation put forward by Mr. Jenkins, and in the main approved by the Commissioners. They appear to be—(1.) State aid to the places of higher Agricultural Instruction; (2.) The establishment of schools of secondary instruction, supported by the County and assisted by the Agricultural Societies; (3.) The introduction of a system of farm apprenticeship for boys and girls; and (4.) Provision for instruction in Agriculture in rural Elementary Schools. These recommendations might be made the subject of a very useful Paper in the

"Transactions," if any of the Members would be at the pains to prepare it.

Considerable additions have been made to the Library since the date of the last Report by purchases out of the Library Fund and by the gift of some valuable works; and the Council trust that the new Members will not be less mindful than their predecessors of their obligation with reference to this very useful feature of the Institution. In fulfilment of the promise in the last Report, a new and improved edition of the Library Catalogue was issued during the Recess, and copies were supplied gratuitously to Members applying for them.

The Catalogue will be kept permanently in type, and a fresh issue, comprising the more recent additions, will take place from time to time.

Several very interesting Papers have been read during the Session, and it is satisfactory to observe that the proceedings continue to sustain their reputation for practical usefulness, and that the attendance at the fortnightly Meetings is so large and so constant.

In conclusion, the Council tender their best thanks to the Members for the support they have received in their efforts to place and maintain the Institution upon a basis of prosperity.

Dr. STATEMENT OF RECEIPTS A

REVE

1883.	RECEIPTS.	£	s.	d.	£	s.	d.
534 Fellows' Subscriptions for 1883, at £3 3s.		1,682	2	0			
3 „ „ part paid		2	5	0			
					1,684	7	0
292 Professional Associates' and Associates' Subscriptions for 1883, at £2 2s.					613	4	0
31 Students' Subscriptions for 1883, at £1 1s.					32	11	0
							2,
Hire of Arbitration Rooms							
Withdrawn from Deposit at London and Westminster Bank							1,
Sale of New 3 per Cents.							
Dividends							
Transferred from Capital							
Cash at Bankers and in hands of Secretary, January 1st, 1883							
							£5,

CAPI

	£	s.	d.	£	s.	d.
83 New Fellows' Entrance Fees, at £5 5s.	435	15	0			
14 Fellows' Entrance Fees, Balance on Transfer, at £2 2s.	29	8	0			
				465	3	0
95 New Professional Associates' and Associates' Entrance Fees, at £3 3s.				299	5	0
Interest on £200, North British Railway Preference Stock (Crawter Bequest)						
By £1,000 in Exchequer Bills recarried to Institution Account						1,
Balance at Bankers, January 1st, 1883						
						£2,

LIBR

Donations to December 31st, 1883	
Dividends	
Sale of £110 19s. 2d., New 3 per Cents.	
Balance at Bankers, January 1st, 1883	
	£
Revenue Account	5,
Capital „	2,
Library „	
	£7,

ASSETS

	£	s.	d.
Cash at Bankers and in hands of Secretary			
Value of Furniture and Books			3,
Investments—Consols	2,541	9	6
„ New 2½ per Cents.	960	0	0
„ Reduced 3 per Cents.	100	0	0
„ North British Railway Preference Stock	200	0	0
On Deposit at London and Westminster Bank	750	0	0
			4,
Subscriptions and Entrance Fees due but unpaid at date			
Value of Premises, No. 12, Great George Street			6,
Fees for use of Rooms due but unpaid at date			
			£14,

NSTITUTION.

E TO DECEMBER 31ST, 1883. Cr.

COUNT.

883. EXPENDITURE.

	£	s.	d.	£	s.	d.
.. ..	243	4	7			
nce, Rates, and Taxes	114	7	10			
Light, and Water	77	0	7			
				434	13	0
s				52	9	8
lery, Postage and Receipt Stamps, Books of Account, Publications, &c.				189	18	1
s and Wages				723	3	2
hold Effects and Housekeeper's Petty Cash Expenses, Tea, Coffee, and Sundry Disbursements				93	15	1
a-Certificates—Engraving and Printing				50	19	6
. Wyon for Common Seal, Small Die and Fittings				112	17	6
y Catalogue				92	0	0
nations—Examiners' Fees and Expenses £43 0 6						
Printing, Lithography, and Hire of Instruments .. 68 5 6						
111 6 0						
Less Candidates' Fees Forfeited, £19 19*s.*, Sale of Rules, £7 0*s.* 4*d.*, and President's Prize, £15 (not awarded).. 41 19 4						
	69	6	8			
Prizes	45	0	0			
				114	6	8
ation of "Transactions"—Printing and Lithography	250	2	6			
Covers and Binding	9	16	9			
Reporting	40	19	0			
	300	18	3			
Less Sale of "Transactions" and Covers	42	18	2			
				258	0	1
l Printing				100	3	0
se of £1,771 3*s.* Consols				1,774	5	2
on Deposit at London and Westminster Bank				1,250	0	0
t Bankers and in hands of Secretary, December 31st, 1883				27	4	8
				£5,273	15	7

COUNT.

	£	s.	d.	£	s.	d.
re and Fittings				17	19	6
se of £960 New 2½ per Cents.	840	0	0			
on Deposit at London and Westminster Bank	500	0	0			
				1,340	0	0
ssion on Loan Exchequer Bills				7	4	1
erred to Revenue				400	0	0
e at Bankers, December 31st, 1883				256	13	4
				£2,021	16	11

COUNT.

	£	s.	d.
se of Books, Maps, &c.	89	9	0
se of £100 Reduced 3 per Cents.	100	0	0
e at Bankers, December 31st, 1883	471	2	5
	£660	11	5

RY.

	£	s.	d.
ie	5,246	10	11
l	1,765	3	7
y	189	9	0
es at Bankers and in hands of Secretary, December 31st, 1883	755	0	5
	£7,956	3	11

ABILITIES.

	£	s.	d.
uarter's Rent to December, 31st, 1883	62	10	0
Housekeeping, and various Accounts	173	0	0
e	14,426	2	5

Examined with the Books and Vouchers and found correct.

ROBERT VIGERS.
ARTHUR GARRARD.

May, 1884.

£14,661 12 5

APPENDIX TO VOL. XVI.

Obituary.

VIRGOE BUCKLAND (Fellow) was born on May 15th, 1825. He was the second son of Mr. William Thomas Buckland, a Surveyor and Valuer, and Farmer on a considerable scale, at Wraysbury and Windsor. Mr. Buckland was educated at Mr. West's, of Amersham (now Amersham Hall, Reading), and gained his early business knowledge in his father's offices, taking part in the valuing and surveying of several parishes for tithe apportionment, in various railway surveys, and in work arising out of the acquisition of property for their construction.

In 1853 Mr. Buckland came to London, commencing business in connection with Mr. James Haslam, of Reading, a partnership which was, however, dissolved in 1861.

He soon secured a very considerable business, which, as his professional capabilities came to be appreciated, ultimately grew to dimensions which must have severely taxed the powers even of a constitution so robust as his.

Among the private owners and public bodies for whom he acted may be mentioned the late Mr. Charles Meeking, for whom he made considerable purchases of land at Langley, Colnbrook, and in Holborn, and on whose behalf he settled various compensation claims with the City authorities in connection with the Holborn Valley Improvements. He also acted for Lord Rendlesham, the Dean and Canons of Windsor, and the Provost and College of Eton.

Between the years 1861-71 Mr. Buckland purchased for the Metropolitan Board of Works the properties required for the construction of the Main Drainage Works (Southern Outfall), the land for the Deptford Pumping Station and for the roadway over the Southern Outfall Sewer from Plumstead to Crossness. Between the years 1865-70 he purchased the lands for the Joint South Western and Brighton Companies for their Tooting, Merton, and Wimbledon Railway; and from 1877-82 acted for the same Companies in connection with the Isle of Wight and Ryde Pier Railway. He was concerned in many of the cases arising out of the Metropolitan Improvements and Railway extensions of recent years, such as the South Eastern Railway Company's Cannon Street line and station, the Metropolitan and Metropolitan District Railways, the Holborn Valley Improvements, the Albert Embankment, the purchase of sites under the Artisans' Dwellings Act, and matters arising out of the Epping Forest Act.

Mr. Buckland was one of the founders, and acted up to the time of his death as Honorary Secretary, of the Surveyors' Association, in the affairs of which he took much interest.

When the first steps were being taken for the establishment of The Surveyors' Institution in 1868, Mr. Buckland was among the foremost to ally himself with its promoters, his name appearing in the list of original Members published in the first edition of the By-Laws, and in the year 1870 he was elected a Member of the Council, a position he continued to occupy up to the time of his death.

There can be no doubt that Mr. Buckland's originally vigorous constitution had been undermined, to an extent entirely unsuspected, by too close attention to business, which multiplied greatly on his hands during the latter years of his life, and a trivial operation to which he sub-

mitted without a misgiving as to its results was followed, within a few days, by his totally-unlooked-for death.

Mr. Buckland will be long remembered in the profession for his clear and calm judgment and his varied knowledge of every class of business, and by his numerous friends for his readiness to help and advise, and for his loyal, genial, and companionable disposition.

SAMUEL CROWTHER (Fellow) was born in September 1834. His father was Mr. James Crowther, for many years an officer of Excise, who, after residing, in the discharge of his duties, in various parts of the country, finally settled in Bradford. When 15 years of age, Mr. Samuel Crowther entered the Bradford Estate Offices—Lord Bradford's agent at that time being Mr. George Piggott, a relative of Mr. Crowther's—and maintained his connection with the estate throughout the remainder of his life.

He was appointed to the responsible position of Agent to the Earl's estates early in March 1857, in succession to Mr. Piggott, his previous training and experience in the Bradford offices enabling him to enter upon the duties with confidence, and to display such knowledge and ability as to amply justify the appointment. The estates being of an extensive character, including large areas of land in Bolton, Great Lever, and other townships, their management, the leasing of plots for building, the collection of ground-rents, the management of the collieries, and the multifarious duties connected with the position of Agent, called for the exercise of an amount of care and circumspection which Mr. Crowther proved fully equal to. During his career many hundreds of houses were erected by various owners on land leased from the Earl, and several very extensive cotton-mills were also established on sites

which form part of this nobleman's property in Great Lever.

Mr. CROWTHER filled the office of Poor Law Guardian for the township of Great Lever for fifteen years consecutively, and was presented, in November 1882, with a testimonial, in token of the esteem and regard felt for him by his fellow-members on the Board, and as a mark of the appreciation in which his work was held.

For twelve years Mr. CROWTHER served the borough as a member of the Town Council, being first elected for Bradford Ward in November 1870, and was elected Alderman of the same Ward in November last.

In addition to his engagements as Agent for the Earl of BRADFORD, Mr. CROWTHER also carried on agricultural pursuits as a gentleman farmer, and for many years maintained a large dairy farm and homestead contiguous to his residence at Hardman Fold.

He also acted on many occasions as umpire or arbitrator in various important disputes and transactions in connection with the transfer of land required for public and private improvements in different parts of the country, and in these cases his experience and mature judgment proved exceedingly valuable.

A few months before his death Mr. CROWTHER was seized with a severe illness, which, after a brief period of apparent abatement, suddenly assumed a fatal form, his death taking place on March 4th, 1884, in the 50th year of his age.

Mr. CROWTHER was twice married, and leaves a widow and four children.

JOHN HARVEY (Fellow) was born at Tooting, in Surrey, in the year 1816. His father, Mr. JOHN HARVEY, who was a native of Folkestone, came to reside at Tooting,

on a small farm, immediately after his marriage, but in 1822 a family pecuniary disaster caused his removal into Wales, where he settled at Haverfordwest as Agent to Lord Kensington.

Mr. Harvey obtained his education at a local Grammar School, and when 19 years of age was articled to a Land Surveyor at Carmarthen, and also received instruction in Civil Engineering.

He subsequently served with Mr. Brunel in the construction of the Great Western Railway, and remained with him until its completion to Bristol.

His father's business having greatly increased by the acquisition of new agencies, Mr. Harvey joined him as a partner, and remained a member of the firm of John Harvey and Sons until the decease of his father in 1823.

His engineering knowledge was very useful to him in after years, especially in connection with new railway lines projected in the district. He was also a practical farmer, and made his farm of Brymaston Grange quite a model of careful and judicious management.

Mr. Harvey was one of the earliest Members of the Institution, which he joined immediately after its establishment in July 1868. He was also a member of the Land Surveyors' Club, and a J.P. for Pembrokeshire.

He had but one son, who died in early life from the effects of an accident at Westminster School.

SYDNEY HUMBERT (Professional Associate) junior partner in the firm of Messrs. Humbert & Sons, of Watford, Herts, and Lincoln's Inn Fields, W.C., died on the 9th day of December, 1883, of typhoid fever, aged 24. Mr. Humbert was a young man of fine personal presence and most attractive manners, and his profession lost one of its most promising younger members by his untimely death.

JOSEPH LAVENDER (Fellow) was a pupil of Mr. John Blyth, of Noble Street, in the City of London, many years District Surveyor for Bromley, Mr. Lavender was Surveyor to the Bedford Charity Estates, to the Doughty Estate, and to the Baroness Burdett-Coutts' Estates at Highgate and Bethnal Green. His professional knowledge was varied and accurate, and his kindly disposition widely known.

JEREMIAH MATHEWS (Fellow), formerly Vice-President and one of the original Members of the Institution, was born at Hagley, Worcestershire, on the 26th May, 1799. He was articled to Mr. Jacob, Surveyor, of Birmingham, a gentleman then in high professional position in the town, and with whom he went into partnership in March 1821. In 1824, after Mr. Jacob's death, he commenced business on his own account at Hagley, where he continued to reside and practise until 1832, when, being appointed Land-Agent to William Henry Lord Lyttelton, the grandfather of the present Lord, he moved from Hagley to Stourbridge, where he remained four or five years.

The first important business in which he was engaged was in connection with a Charity known as Oldswinford Hospital, close to Stourbridge, founded in 1667 by Thomas Foley, for the education and apprenticeship of poor boys. A large proportion of the land with which the Charity had been endowed by the founder had been leased, towards the end of the 17th century, by the then Feoffees, at nominal rents, for terms of 200 years. Mr. Mathews was engaged to prepare the report and valuation, which formed the basis of the Chancery proceedings under which these leases were set aside and the income of the Charity largely increased.

Previously to the Chancery proceedings, the number of

boys in the Hospital was 60. The number was immediately increased to 100, and subsequently in 1862 to 120. In April 1836 Mr. MATHEWS was appointed by the Feoffees Land-Agent and Steward.

At the time of the above proceedings the late Lord FOLEY was Chairman of the Feoffees. It may be assumed that it was in consequence of the way in which Mr. MATHEWS had discharged his duties as adviser to the Hospital that in the year 1837 Lord FOLEY appointed him his Agent. In this capacity he had the management of the large landed properties in the county of Worcester belonging to Lord FOLEY. They were at that time so heavily encumbered that there was little, if any, margin of income to the owner, and in the year 1838 Mr. MATHEWS effected sales of the whole of these properties at purchase-moneys amounting in the aggregate to upwards of £900,000. The bulk of the property was purchased by the Trustees of the late Earl of DUDLEY and by the then Lord WARD, now the present Earl. The balance of the purchase-money, when all the liabilities were paid, was sufficient to yield to the vendor a very handsome income.

After the sale of these Estates Mr. MATHEWS was continued in the agency by Lord WARD, and moved his residence to Park Hall, near Kidderminster, a house situated on the property, where he remained for upwards of 10 years.

Between the years 1837-46 the apportionment of the tithes opened a wide field of operations for Surveyors, and Mr. MATHEWS had his full share of this work. Between the years 1837 and 1846 he acted as Valuer in the apportionment of the tithes of 40 parishes and townships in the county of Worcester.

In the year 1847 he was appointed Agent to Miss RYLAND, the owner of a large building estate in Birmingham and of a residential property in the neighbourhood of

Warwick, and to Lady Emily Foley in respect of her Staffordshire estates.

In or about the year 1836 Mr. Mathews had been engaged in endeavouring to secure railway accommodation to the populous towns in the black country on the western side of Birmingham. These efforts were fruitless. When railway speculation recommenced in 1845, he was largely engaged in the various schemes which then came before the public, and particularly in assisting the late Mr. Samuel Carter, who was at that time Solicitor to the London and Birmingham Railway.

In 1849 he resolved to leave Kidderminster and to carry on his practice in Birmingham, partly for the more convenient conduct of his business, and partly for the better education of his family—a change which entailed his resigning his appointment as the Earl of Dudley's Agent.

For the next few years he was largely engaged in railway business, acting for numerous landowners in sales to railway companies, and either for landowner or companies in contested compensation cases. He was engaged for the Governors of King Edward's School, Birmingham, against the North Western Railway in a jury case for determining the value of the site of the New Street Station, which resulted in a verdict of upwards of £40,000. He was also engaged in conjunction with the late Mr. Richard Hall, of Cirencester, in purchasing for the Great Western Railway the property required for the line and station in the borough of Birmingham.

From 1850 to 1863 he was engaged by the then Dukes of Marlborough in making a complete survey and plans of the Oxfordshire estates, about twenty-two thousand acres in extent, and in fixing the rental of farms after the disturbance of prices consequent on the repeal of the Corn Laws.

In the year 1859 Mr. Mathews purchased for Mr.

William Orme Forster the Elmley and Rushock Estates, in the county of Worcester; and in 1867 he concluded with the late Mr. John Oakley, the Surveyor to Mr. Whitmore, a negotiation for the purchase of the Apley property, near Bridgnorth, in the county of Salop. He made subsequent purchases in augmentation of the latter. The entire transactions on Mr. Forster's account were of a magnitude not very much inferior to those he had been previously engaged in on behalf of Lord Foley.

Mr. Mathews was elected a member of the Land Surveyors' Club in the year 1855.

When, in 1868, measures were taken for the establishment of the Institution, Mr. Mathews at once gave the movement his cordial support, the place he occupied in the estimation of his co-founders being marked by his appointment as one of its first Vice-Presidents. His views of the responsibilities attaching to the duties of the profession, and the careful and varied training required for their adequate discharge may be profitably studied in his own words by those who turn to the admirable Paper which he contributed in 1870 to the "Transactions" entitled, "A Plea for Culture in the Profession of the Surveyor."

During the 17 years he was in practice in Birmingham, he was frequently engaged as umpire in compensation cases and in valuations for the Charity and Land Commissioners, by both of whom he was trusted and respected. Mr. Mathews retired from the active practice of his profession in or about the year 1876.

It would be difficult within the compass of a short memoir to do justice to the many admirable qualities which distinguished Mr. Mathews. His zeal for the interests of his clients, his genial and conciliatory manners, his unswerving sense of honour, and his disregard of self when the welfare of others was concerned were among the

qualities that were apparent to all with whom he came in contact, and which commanded the success that might be expected, and secured for their possessor what he valued still more highly than material prosperity, the respect and affection of a large circle of friends. His death, which resulted from a painless decay of nature, took place at Edgbaston on the 4th November, 1883, in the 84th year of his age.

EDWARD WELLS MOORE (Fellow) was born in 1813. He was appointed, in the year 1840, resident Agent on the estate of the late Earl RADNOR, at Coleshill, Berks, on the recommendation of Earl SPENCER, Earl TALBOT, and Sir F. LAWLEY. Various important improvements were carried out during the following 30 years under Mr. MOORE's direction, some of them due to his initiative. In 1869 he was appointed an Inspector under the Inclosure Commissioners. On the death of the late Earl in 1869, Mr. MOORE was continued in his agencies by the present Lord RADNOR; but five years later his connection with the estate, which had lasted uninterruptedly for 36 years, was suddenly severed, and having been appointed, in the year 1870, Agent to Sir HARRY VERNEY, he went to reside in 1876, at Claydon, in Buckinghamshire, where he died in July last in the 70th year of his age.

WALTER BELLSON PRICKETT (Fellow) was born about the year 1833, at Highgate. He was the son of Mr. GEORGE PRICKETT, Surveyor, of Chancery Lane and Highgate, where the PRICKETT family have carried on their business for considerably more than a hundred years. Upon the death of his father he went into partnership with his brother, the late Mr. GEORGE PRICKETT, at whose decease he associated with him in the business Mr. FREDERICK

Venables, of Barnet and London, and Mr. Henry Ellis, under the style of Prickett, Venables, & Co.

Mr. Prickett was elected a Member of the Institution in November 1872. He was a man of very kindly and genial disposition, securing many firm and attached friends. He died at his residence, 14, Redcliffe Gardens, South Kensington, of congestion of the lungs, on the 6th February, 1884, in the 52nd year of his age.

GEORGE RAWLENCE (Fellow) was the eldest son of James Rawlence, of Bulbridge, Wilts, the well-known farmer, sheep-breeder, and land-agent, and was born at Heale, near Salisbury, on the 28th February, 1841. He was educated as a Land-Agent in the office of Messrs. Rawlence and Squarey, of Salisbury and Westminster, and at the age of 22 became a partner in that firm. He early evinced a great love for, and knowledge of, natural history and farming pursuits, which he had an opportunity of gratifying and improving on the farms of his father at Heale and Bulbridge, Wilts. He showed great discrimination in dealing with anxious questions between landlord and tenant, and was very eminently qualified to discharge the duties of a Land-Agent. In the firm to which he belonged he had the special charge of several large agencies in various parts of England, and his loss is regretted as much by his clients and their tenants as by his partners. Ever ready to do a kind action, honest as the day, he was called upon by his fellow-townsmen to take upon himself municipal and other labours, and at the time of his death he was for the second time Mayor of Wilton. In addition to the zealous and arduous discharge of his professional duties, he was actively engaged, with scarcely a break for over twenty years, in the religious and philanthropic agencies of the parish in which he resided. His premature death at the

age of 42 took place at Wilton on November 28th, 1883, and the very high esteem in which he was held by his clients, friends, and neighbours, was proved by their assembling to the number of over 400 at his funeral.

Mr. Rawlence was elected a Fellow of the Institution in January 1870.

EDMUND ROBINS (Fellow) was the son of the late Mr. Edmund Robins, Surveyor and Auctioneer, to whose business he succeeded on the death of that gentleman in 1865.

Mr. Robins was elected a Fellow of the Surveyors' Institution in March 1879. He was also a Member of the select Society of Auctioneers, acting as Treasurer and Secretary to that Society from 1874 to 1883, and on his resignation of these offices was presented with a valuable testimonial by his professional brethren as a token of their respect for his personal worth and his practical and upright character as a man of business.

Mr. Robins' death took place on the 22nd March, 1884, in the 47th year of his age.

LIST OF DONATIONS AND CONTRIBUTIONS TO JUNE 1st, 1884.

DONATIONS OF BOOKS, MAPS, &c.

Donors.	Title of Work.
Adams, H.	"Strains in Ironwork." By H. Adams.
Agricultural Gazette, Editor of the	"The Agricultural Gazette," 1883-84.
Architect, Editor of the	"The Architect," 1883-84.
Bath and West of England Society	"Journal," 1883-84.
Bedells, C. H.	Gorham's "History and Antiquities of Eynesbury and St. Neot's." Fox's "History of Godmanchester."
Brackett, W.	Bacon's "Atlas of the British Isles."
Builder, Editor of the	"The Builder," 1883-84.
Builders' Weekly Reporter, Editor of the	"The Builders' Weekly Reporter," 1883-84.
Building News, Editor of the	"The Building News," 1883-84.
Bund, J. W. W.	Treatise on the "Agricultural Holdings Act," 1883. 2nd Edition. By J. W. W. Bund.
Burrows, A. J.	"Science for Foresters." By A. J. Burrows.
Daw, W. H.	"The Gazeteer of Ireland," 3 vols.
Dowling, C.	Lyson's "Antiquities of Gloucestershire."
Ellis, E. F.	Maitland's "History of London." 2 vols.
Estates' Gazette, Editor of the	"The Estates' Gazette," 1883-84.
Evans, R.	"Records of the Borough of Nottingham." Vol. II., 1399-1485.
Farmers' Club, The	"Journal," 1883-84.
Field, Editor of the	"The Field," 1883-84.
Fletcher, B.	"Dilapidations; a Text-Book for Architects and Surveyors." 3rd Edition. By B. Fletcher.
Forestry, Journal of, Editor of	"Journal," 1883-84.
Fowler, W.	Pamphlet on "The Conflict in English History between Private Ownership of Land and the Ownership of the State and the Community." By G. J. Johnson.
Grant, J. C.	Treatise on the "Agricultural Holdings (England) Act," 1883. By C. Grant.
Gouthwaite, R.	"The British Almanac and Companion," from 1828 to 1883.
Horticulture, Journal of, Editor of the	"Journal of Horticulture," 1883-84.
Humbert, C. F.	"Journal of the Geological Society," 1883-84.
Institution of Civil Engineers	"Minutes of Proceedings," Vols. LXXII., LXXIII., LXXIV., LXXV., & LXXVI.
Institution of Civil Engineers of Ireland	"Transactions," 1883-84.
Institution of Mechanical Engineers	"Proceedings," 1883-84.
Iron, Editor of	"Iron," 1883-84.
Janson, F. H.	Treatise on the "Agricultural Holdings (England) Act," 1883. By A. J. Spencer.

Donors.	Title of Work.
Land Agents' Record, Editor of the	"Land Agents' Record," 1883-84.
Liverpool Architectural Society	"Proceedings," 1881-82.
Lock, W. H.	Marshall's "Rural Economy." 2 vols. Evans's "South Wales."
London and Middlesex Archæological Society	"Transactions," 1883-84.
McGovern, J. H.	"Hints to Brewers, Licensed Victuallers, Property Owners, &c." By J. H. McGovern. "Liverpool Compensations." By J. H. McGovern.
North of England Institute of Mining and Mechanical Engineers	"Transactions," 1883-84.
Penfold, J. W.	W. Leybourn's "Compleat Surveyor," 1674. Scamozzi's "Mirror of Architecture; or, the Ground Rules of the Art of Building," 1708. "The Census of Great Britain," 1851 (condensed reprint).
Raynbird, H. E.	Young's "Tour in Ireland." Young's "Annals of Agriculture." 11 vols. "Agriculture of Suffolk." By W. and H. Raynbird. Vancouver's "Agriculture of Hampshire."
Royal Agricultural Society of England.	"Journal," 1883-84.
Robinson, H.	"Pamphlet on River Pollution." By H. Robinson.
Royal Institute of British Architects	"Proceedings," 1883-84.
Secretary of State for India	"Account of the Operations of the Great Trigonometrical Survey of India." Vols. VII., VIII., and IX.
Shoppee, C. J.	"Description of the Pictures in the Hall of the Barbers' Company." By C. J. Shoppee.
Société des Géomètres	"Journal," 1883-84.
Statistical Society	"Journal," 1883-84.
Sutton, H.	Larking's "Domesday Book of Kent." Cosmo's "Travels through England in the time of Charles II."
Messrs. Sutton and Sons, of Reading	A Case of 24 Classified Specimens of Grasses and Grass Seeds.
Tapp, A.	"The Gentlemen's Steward and Tenants of Manors Instructed." By J. Richard.
Tudor, E. C. B.	Caillie's "Travels." 2 vols.
Vernon, W. L.	"Brief Statement of the Proceedings respecting the New Law Courts at Westminster, &c.," &c. By Sir J. Soane.
Weston, G.	Milner's "History of Winchester." 2 vols. Arnold's "Chronicle." Pennant's "Tour from Chester."
Woolfe, S.	"The Law and Practice of Compensation." By Woolfe and Middleton.

CONTRIBUTIONS IN MONEY TO LIBRARY FUND,

From June 1st, 1883, to June 1st, 1884.

	£	s.	d.
Abbott, R. T. G.	2	2	0
Allen, H. R.	2	2	0
Anderson, R., Jun.	2	2	0
Benson, T.	2	2	0
Bolton, W. H.	2	2	0
Bontor, F. A.	2	2	0
Booker, A. E.	2	2	0
Booth, J. F.	2	2	0
Boyle, E.	2	2	0
Bridgewater, B. J.	3	3	0
Brinsley, G.	1	1	0
Card, H.	2	2	0
Card, H. C.	2	2	0
Cartwright, G. K.	5	5	0
Chancellor, A.	2	2	0
Clarke, H. C.	2	2	0
Coleman, J.	2	2	0
Colgate, T., Jun.	2	2	0
Cooper, J. T.	2	2	0
Couchman, R. E.	2	2	0
Daffarn, T. A.	2	2	0
Darley, W.	4	4	0
Dash, R. A.	2	2	0
Dash, T. A.	2	2	0
Dent, R. J.	2	2	0
Draper, A. T.	2	2	0
Ellis, H.	3	3	0
Fiddian, W.	2	2	0
Field, J. F.	1	1	0
Forrest, R.	5	5	0
Furber, W.	2	2	0
Fyfe, G. P. C.	2	2	0
Galpin, C. A.	2	2	0
Galpin, J.	2	2	0
Garrod, H. J.	2	2	0
German, G.	2	2	0
Grant, J.	2	2	0
Grellier, H. M.	2	2	0
Hansell, R. G.	1	1	0
Hasluck, L. G.	2	2	0
Heard, H.	2	2	0
Henderson, H. A.	1	1	0
Henry, E. H.	1	1	0
Higgins, F.	2	2	0
Hitchcox, W.	2	2	0
Hobson, F. W.	2	2	0
Holbeche, A. H.	1	11	6
Holland, T. J., Jun.	1	11	6
Homfray, W. F.	2	2	0
Howell, E. J.	2	2	0
Innocent, C. J.	2	2	0
Jones, C. F.	2	2	0
Jones, H. A.	2	2	0
King, F. H.	2	2	0
Knollys, E. H.	2	2	0
Langridge, G.	2	2	0
Little, W. D.	2	2	0
Lomer, M. F.	2	2	0
Lyster, T. R. S.	2	2	0
Maynard, E.	2	2	0
Morris, H.	2	2	0
Munton, F. K.	2	2	0
Newsam, S. W.	2	2	0
North, G. F.	2	2	0
Page, R.	2	2	0
Parmeter, F.	2	2	0
Parsons, R. M. P.	2	2	0
Peace, A. L.	1	1	0
Rainey, J. H.	2	2	0
Reid, F.	3	3	0
Rendell, A. S.	2	2	0
Riddle, F. H. B.	2	2	0
Richards, A.	2	2	0
Rowlandson, C.	2	2	0
Rundle, E. C.	2	2	0
Seymour, R. A. H.	2	2	0
Skingle, A.	2	2	0
Stacey, W.	2	2	0
Stephens, P. S.	5	0	0
Stock, H.	5	5	0
Stoner, A.	2	2	0
Stower, J.	2	2	0
Squire, R.	5	5	0
Taylor, G.	3	3	0
Tewson, E. A.	2	2	0
Theobald, H. W. D.	2	2	0
Thynne, G. H.	3	3	0
Turner, F. J.	2	2	0
Wainwright, C. R., Jun.	2	2	0
Waistell, W.	2	2	0
Wall, G. Y.	2	2	0
Waterman, J.	3	3	0
Watts, C.	3	3	0
Weston, J. A.	2	2	0
Wilcocks, F. C.	2	2	0
Wilkinson, W.	3	3	0
Winder, G. A.	2	2	0
Wolfe, W. J.	1	1	0

THE SURVEYORS' INSTITUTION

(*Incorporated by Royal Charter*),

12, GREAT GEORGE STREET, WESTMINSTER, S.W.

LIST OF MEMBERS, JUNE 1884.

Honorary Members.

Date of Election and of Transfer.		
1874, Apr. 13	BEDFORD, HIS GRACE THE DUKE OF	81 & 82, Eaton Square, S.W.
1878, Nov. 11	BUCAILLE, EUGÈNE	168, Boulevard de Strasbourg, Havre, France.
1875, Mar. 15	CAIRD, SIR JAMES, C.B. . . .	Tithe and Inclosure Commission Office, St. James's Square, S.W.
1877, Jan. 15	CONSTABLE, JOHN, The REV. . .	Marston Bigot, Frome, Somersetshire.
1880, Jan. 5	DERIVRY, MARIE AUGUSTE LOUIS	Noyon, Oise, France.
1880, Jan. 5	GILLET, GEORGES EDOUARD . .	Joinville, Haute-Marne, France.
1871, Jan. 30	GORE, CHARLES ALEXANDER, The HONORABLE	Office of Woods, &c., 1, Whitehall Place.
1880, May 10	HAMPDEN, THE RIGHT HON. LORD VISCOUNT	Glynde, Lewes, Sussex.
1883, May 21	HARTINGTON, THE RIGHT HON. THE MARQUIS OF	Devonshire House, Piccadilly, W.
A. '69, Jul. 26 H.M.'71, Feb. 27	LEACH, GEORGE ARCHIBALD, LIEUT.-COLONEL	Tithe and Inclosure Commission Office, St. James's Square, S.W.
1878, Nov. 11	LEFÈVRE, FRANÇOIS ETIENNE .	Sucy, Seine et Oise, France.
A. '68, Jun. 23 H.M.'77, May 14	LLOYD, JOHN HORATIO . . .	100, Lancaster Gate, W.
A. '72, Jan. 15 H.M.'72, Apr. 22	RIDLEY, GEORGE	2, Charles Street, Berkeley Square, W.

Fellows.

The names of those Fellows who have qualified for the Class by Examination are distinguished thus *

Dip. No.	*Date of Election and of Transfer.*		
1034	1884, Jan. 14	ABBOTT, ROBERT THOMAS G. .	Auburn Hill, Malton.
1	1868, Jun. 15	ADAMS, CHARLES FREDERICK .	Barkway, Herts.
1105	1884, Feb. 25	ADAMS, HENRY	60, Queen Victoria Street, E.C.
612	1881, Feb. 21	ADDIE, WILLIAM FORRESTER .	30, Winckley Square, Preston.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
982	1883, Dec. 17	ALLEN, HENRY ROBERT . . .	50, Finsbury Square, E.C.
597	A. '81, Jan. 10 / F. '84, Mar. 10	ANDERSON, ROBERT, JUN. . .	25, Bedford Row, W.C.
287	1872, Dec. 9	APPERLEY, WILLIAM HAVARD .	Hereford.
198	1869, May 3	ARDING, CHARLES BENNETT. .	22, Surrey Street, Strand, W.C.
1133	1884, Apr. 21	ARMISTEAD, RICHARD . . .	118, Main Street, Bingley.
791	1882, Apr. 24	ARMSTRONG, THOMAS JOHN .	14, Hawthorn Terrace, Newcastle-on-Tyne.
404	1875, Nov. 8	AUSTIN, RUSSELL GARDENER .	Hertford.
812	1882, May 22	BALLARD, EDMUND	Elwick House, Ashford, Kent.
479	1877, Mar. 12	BALLS, JAMES MAYHEW . . .	Castle Hedingham, Essex.
606	1881, Feb. 7	BANNISTER, THOMAS. . . .	Limehurst, Hayward's Heath, Sussex.
712	1882, Jan. 30	BARFIELD, FREDERIC HENRY .	Faringdon, Berks.
983	1883, Dec. 17	BARNES, JOHN WILLIAM JAMES	Brougham Chambers, Wheeler Gate, Nottingham.
118	1868, Aug. 17	BARRY, CHARLES	1, Westminster Chambers, Victoria Street, S.W.
1056	1884, Jan. 28	BATE, THOMAS	Town Hall Chambers, Kilburn, N.W.
726	1882, Feb. 13	BATH, FRED	Crown Chambers, Salisbury, Wilts, and 33 Strand, W.C.
3	1868, Jun. 15	BEADEL, WILLIAM JAMES (*Vice-President*) . .	97, Gresham Street, E.C.
136	1868, Nov. 2	BEAUMONT, GEORGE . . .	East Bridgford, near Nottingham.
1153	1884, May 5	BECK, EDMUND	Sandringham, Norfolk.
525	1879, Jan. 6	BEDELLS, CHARLES KING . .	6, John Street, Bedford Row, W.C.
317	1873, Dec. 8	BEESTON, FREDERICK . . .	30, Lincoln's Inn Fields, W.C.
630	1881, Dec. 19	BELL, GEORGE GRAHAM . .	11, Pall Mall East, S.W.
388	1875, Mar. 1	BENNETT, THOMAS OATLEY . .	Bruton, Somerset.
1187	1884, May 26	BENINGFIELD, HENRY . . .	16, Union Court, E.C.
631	1881, Dec. 19	BERRIDGE, ROBERT	181, Bishopsgate Street Without, E.C.
984	1883, Dec. 17	BETTRIDGE, EDWARD . . .	11, Temple Row, Birmingham.
306	1873, Feb. 24	BEWICK, THOMAS JOHN . . .	Haydon Bridge, Northumberland.
190	1869, Mar. 22	BIDWELL, CHARLES	Ely, Cambridgeshire.
912	1883, April 2	BIDDELL, WILLIAM, M.P. . .	Lavenham Hall, Suffolk.
396	1875, Apr. 12	BINGHAM, REUBEN	5, Bolton Street, Piccadilly, W.
131	1868, Oct. 26	BINNIE, THOMAS	207, Hope Street, Glasgow.
113	1868, Aug. 10	BIRD, JAMES BINFIELD . . .	14, Queen Victoria Street, E.C., and West Cowes, Isle of Wight.
1154	1884, May 5	BIRD, WALTER	61, Edgware Road, W.
772	1882, Mar. 13	BIRDSEYE, WILLIAM	99, Gresham Street, E.C.
883	1883, Feb. 12	BLAKE, WILLIAM JOHN, JUN. .	2, Abchurch Yard, E.C., and 21, High Street, Croydon.
773	1882, Mar. 13	BLAKEMORE, WILLIAM AGUTTER	24, Salisbury Street, Strand, W.C.
1057	1884, Jan. 28	BLASHILL, THOMAS	10, Old Jewry Chambers, E.C.
1058	1884, Jan. 28	BLEWITT, EDWARD ROBERT . .	Rainham, Essex.
227	1870, Feb. 7	BLOUNT, WILLIAM	Orchehill House, Gerrard's Cross, Bucks.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
330	1874, Feb. 2	Bolam, Charles Godfrey . .	82 & 83, Palace Chambers, S.W.
450	1876, May 8	Bolam, William Thomas . .	Cross House, Westgate Road, Newcastle-upon-Tyne.
408	1875, Dec. 13	Bolden, John Leonard . .	Tehidy Office, Camborne, Cornwall.
199	1869, May 3	Bond, Erasmus	22, Surrey Street, Strand, W.C.
24	1868, Jun. 15	Bonny, James Rippoth . . .	Palmer's Hill House, Palmer's Green, Southgate, N., and 47, Old Broad Street, E.C.
813	1882, May 22	Booker, Algernon Erskine .	Albion House, Hyde Park Square, W.
632	1881, Dec. 19	Botterill, William . . .	23, Parliament Street, Hull.
1134	1884, Apr. 21	Bower, William John . . .	6, St. James Street, Derby.
62	1868, Jul. 13	Bowler, William Anthony .	5, Museum Street, Ipswich.
633	1881, Dec. 19	Boyle, Edward	14, Clement's Lane, E.C.
870	1883, Jan. 29	Brackett, William . . .	27, High Street, Tunbridge Wells.
1059	1884, Jan. 28	Bray, Harry	14, Warwick Court, Gray's Inn, W.C.
727	1882, Feb. 13	Brereton, Franc Sadleir .	292, High Holborn, W.C.
953	1883, May 25	Brinsley, George	30 and 31, New Bridge Street, E.C.
829	1882, Dec. 18	Bridgewater, Bentley James	80, Cheapside, E.C.
359	1874, Dec. 7	Brook, James	12, 13, & 14, Estate Buildings, Huddersfield.
919	1883, April 16	Brook, Thomas	28, John William Street, Huddersfield.
1060	1884, Jan. 28	Brown, Bradshaw	59, Fenchurch Street, E.C.
322	1874. Jan. 5	Brown, Daniel Johnson . .	61, Lincoln's Inn Fields, W.C.
63	1868, Jul. 13	Brown, George	Roborough House, Barnstaple, Devonshire.
634	1881, Dec. 19	Brown, George James . . .	8, Spring Gardens, S.W.
933	1883, April 30	Brown, John Powles . . .	21, East Street, Hereford.
173	1869, Feb. 22	Brown, Thomas Forster . .	Guildhall Chambers, Cardiff.
165	1869, Feb. 8	Brown, William.	Tring, Herts.
246	1870, Dec. 12	Buchan, Thomas.	15, Barrack Street, Dundee.
77	1868, July 13	Buck, Albert	Worcester.
270	1871, Dec. 18	Buckland, Frank Bowry . .	Windsor.
774	1882, Mar. 13	Burbridge, Samuel. . . .	9, Blomfield Street, E.C.
80	1868, Jul. 20	Burnell, Edward Henry . .	32, Bedford Row, W.C.
635	1881, Dec. 19	Burnett, David	14, Nicholas Lane, E.C.
379	1875, Feb. 1	Burroughes, Thomas Henry.	16, Lower Berkeley Street, W.
814	1882, May 22	Burrows, Alfred J. . . .	Surrenden Estate Office, Pluckley, Kent.
323	1874, Jan 5	Buzzard, Alfred Lindsey. .	22, Surrey Street, Strand, W.C.
787	A. '82, Mar. 27 / F. '84, Jan. 14	Card, Henry Curtis . . .	North Street, Lewes, Sussex.
232	A. '70, Feb. 7 / F. '80, Nov. 22	Carritt, Ernest	18 & 19, Great St. Helen's, E.C.
800	A. '82, Apr. 24 / F. '83, Jan. 15	Carpenter, Evan George .	2, Abchurch Yard, E.C., and 21, High Street, Croydon, Surrey.
954	1883, May 25	Cartwright, George Kingsford	Queen's Road, Harrogate.
636	1881, Dec. 19	Cartwright, Henry Edward .	Magherafelt Manor, Co. Londonderry, Ireland.
444	1876, Apr. 24	Cassell, James Robert . .	11, Billiter Square, E.C.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
920	1883, April 16	CASTLE, GEORGE RICHARD . .	Bicester, Oxford.
328	1874, Jan. 19	CASTLE, HENRY JAMES, SEN. . (*Member of Council*)	40, Chancery Lane, W.C.
637	1881, Dec. 19	CASTLE, HENRY JAMES, JUN. .	37, Bedford Row, W.C.
295	1873, Jan. 13	CASTLE, ROBERT	Merton Street, Oxford.
278	1872, Mar. 11	CASTLE, WILLIAM HENRY BALDWIN	40, Chancery Lane, W.C.
247	1870, Dec. 12	CATES, ARTHUR	7, Whitehall Yard, S.W.
362	1875, Jan. 4	CAVE, HENRY H.	The Manor House, Brigg, Lincolnshire.
1061	1884, Jan. 28	CHANCELLOR, ALBERT . . .	1, King Street, Richmond, Surrey.
219	1870, Jan. 10	CHANCELLOR, FREDERICK . .	Chelmsford, Essex; and 20, Finsbury Circus, E.C.
25	1868, Jun. 15	CHAPMAN, GEORGE	5, Adelaide Street, Strand, W.C.
296	1873. Jan. 27	CHEFFINS, CHARLES RICHARD .	23, Abingdon Street, S.W.
1135	1884, Apr. 21	CHESTON, CHESTER, JUN. . .	1, Great Winchester Street Buildings, E.C.
57	1868, Jul. 6	CHINNOCK, FREDERICK GEORGE	11, Waterloo Place, S.W.
681	1882, Jan. 16	CLARK, SAMUEL	8, New Cavendish Street, W.
682	1882, Jan. 16	CLARKE, ALFRED DUDLEY . .	West Dean, Chichester.
973	1883, Nov. 12	CLARKE, RICHARD	3, Newall Street, Birmingham.
27	1868, Jun. 15	CLARKE, THOMAS CHATFEILD . (*Member of Council*)	63, Bishopsgate Street Within, E.C.
5	1868, Jun. 15	CLIFTON, EDWARD NORTON . . (*Past-President*)	7, East India Avenue, E.C.
29	1868, Jun. 15	CLUTTON, HENRY	9, Whitehall Place, S.W.
6	1868, Jun. 15	CLUTTON, JOHN . . . . . (*Past-President*)	9, Whitehall Place, S.W.
78	A. '68, Jul. 13 / F. '75, May 10	CLUTTON, JOHN HENRY . . .	9, Whitehall Place, S.W.
61	A. '68, Jul. 6 / F. '74, Apr. 13	CLUTTON, RALPH	9, Whitehall Place, S.W.
221	A. '70, Jan. 10 / F. '75, Dec. 13	CLUTTON, RALPH WILLIAM . .	Dovers Lodge, Reigate, Surrey.
65	1868, Jul. 13	CLUTTON, ROBERT GEORGE . .	9, Whitehall Place, S.W.
153	1869, Jan. 11	CLUTTON, WILLIAM JAMES . .	The Mount, York.
713	1882, Jan. 30	COBB, HERBERT MANSFIELD .	43, Lincoln's Inn Fields, W.C.
31	1868, Jun. 15	COBB, ROBERT LAKE. . . . (*Member of Council*)	Higham, Kent.
714	1882, Jan. 30	COLEMAN, JOHN	Riccall Hall, York.
769	A. '82, Feb. 27 / F. '84, Jan. 28	COLGATE, THOMAS, JUN. . . .	Glynde, Lewes, Sussex.
119	1868, Aug. 17	COLLINS, HENRY HYMAN . .	61, Old Broad Street, E.C.
193	1869, Apr. 5	COMELY, JOHN GILL	Winchester, Hants.
1035	1884, Jan. 14	COOK, EDWARD SAMUEL . . .	60, Queen Victoria Street, E.C.
1172	1884, May 19	COOPER, ARTHUR LESLIE . .	86, High Street, Maidenhead.
715	1882, Jan. 30	COOPER, JOHN GROVES . . .	Bideford, Devon.
895	1883, Feb. 26	COOPER, JOHN THOMAS. . . .	41, Moorgate Street, E.C.
445	1876, Apr. 24	COOTE, GEORGE	Smeetham Hall, Sudbury, Suffolk.
985	1883, Dec. 17	COOTE, JOHN	Sudbury, Suffolk.
272	1872, Jan. 29	COUCHMAN, CHARLES. . . .	6, Waterloo Street, Birmingham.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
934	1883, April 30	COUCHMAN, ROBERT EDWARD .	6, Waterloo Street, Birmingham.
556	1880, Jan. 5	COVERDALE, FREDERICK JOHN .	Ingatestone Hall, Essex.
728	1882, Feb. 13	COVERDALE, HENRY	Cossey, Norfolk.
495	1878, Jan. 28	COWGILL, WILLIAM	Bradford.
729	1882, Feb. 13	COX, GEORGE JAMES	1, Promenade, Cheltenham.
159	1869, Jan. 25	CRAWTER, JOHN	Cheshunt, Herts.
160	1869, Jan. 25	CRICKMAY, GEORGE RACKSTROW.	17, Parliament Street, S.W., and St. Thomas Street, Weymouth.
354	1874, May 11	CRONK, EDWYN EVANS . . .	Sevenoaks, Kent.
730	1882, Feb. 13	CRONK, EDWYN EVANS, JUN. .	12, Pall Mall, S.W.
731	1882, Feb. 13	CRONK, FRANK	12, Pall Mall, S.W.
871	1883, Jan. 29	CRONK, WILLIAM HENRY . .	Sevenoaks, Kent.
416	1876, Jan. 10	CROSS, JOHN	77, King Street, Manchester.
307	1873, Apr. 21	CROSS, WILLIAM STEPHENS . .	53, Charing Cross, S.W.
389	A. '75, Mar. 1 F. '80, Nov. 8	CRUSE, EDMUND	34, High Street, Warminster, Wiltshire.
32	1868, Jun. 15	CURREY, HENRY	37, Norfolk Street, W.C.
581	1880, Dec. 13	CURTIS, CHARLES EDWARD . .	Deanyers, Alton, Hants.
483	1877, Apr. 16	CURTIS, ROBERT LEABON . .	119 and 120, London Wall, E.C.
543	1879, Apr. 28	CURTIS, SAMUEL PERKINS . .	119 and 120, London Wall, E.C.
986	1883, Dec. 17	DAINTREE, JOHN OSBORN . .	Swavesey Manor, Swavesey-by-St. Ives, Hunts.
387	A. '75, Feb. 15 F. '84, Jan. 14	DALE, JOHN	16, Whitehall Place, S.W.
638	1881, Dec. 19	DALLAS, EDWIN STUART . . .	34, Great James Street, Bedford Row, W.C.
987	1883, Dec. 17	DANIEL, HARRY AUGUSTUS HOOD	Avonmead, 10, Leigh Road, Clifton, Bristol.
732	1882, Feb. 13	DANN, HENRY	Bexley, Kent.
510	1878, Apr. 29	DARLEY, WILLIAM	Eastfield, Askern, Doncaster.
896	1883, Feb. 26	DASH, THOMAS ALEXIS . . .	12, Whitehall Place, S.W.
66	1868, Jul. 13	DAVID, EDWARD	Llandaff, Glamorganshire.
300	1873, Feb. 10	DAVIES, JOHN MORGAN . . .	Froodvale, Llandilo, Carmarthenshire.
491	A. '77, Dec. 10 F. '81, Nov. 14	DAVIS, JAMES	32, Strand, W.C.
897	1883, Feb. 26	DAW, WILLIAM HERBERT . .	62, Coleman Street, E.C.
683	1882, Jan. 16	DEACON, THOMAS MARK. . .	1, Adelaide Street, Charing Cross, S.W.
1085	1884, Feb. 11	DEBENHAM, THOMAS NUNN . .	80, Cheapside, E.C.
1116	1884, Mar. 10	DENNANT, WILLIAM FREETH .	63, Queen Victoria Street, E.C.
863	1883, Jan. 15	DENT, RALPH JOHN . . .	Streatlam House, Darlington.
8	1868, Jun. 15	DENTON, JOHN BAILEY . . .	22, Whitehall Place, S.W.
760	1882, Feb. 27	DEW, WILLIAM	Bryn Bras Castle, Carnarvon.
759	1882, Feb. 27	DEW, WILLIAM ARTHUR . . .	Wellfield House, Bangor.
884	1883, Feb. 12	DINWIDDY, THOMAS	Croom's Hill, Greenwich Park.
169	A. '69, Feb. 8 F. '78, Feb. 25	DODGSON, WILFRED LONGLEY .	The Moor, Ludlow.
1136	1884, Apr. 21	DOLL, CHARLES FITZROY . .	64, Cannon Street, E.C.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
163	A. '69, Jan. 25 F. '82, Nov. 31	DOWDEN, HENRY JOSEPH .	41, Charing Cross, S.W.
716	1882, Jan. 30	DOWLING, CLEMENT . . .	32, Craven Street, W.C.
493	1878, Jan. 14	DOWNING, FREDERICK . .	7A, Whitehall Yard, S.W
817	A. '82, May 22 F. '84, May 19	DRAPER, ARTHUR THOMAS . .	Grey Friars, Leicester.
301	1873, Feb. 10	DREW, HENRY	Exeter.
275	1872, Feb. 26	DREW, JOHN	9, Queen Street, Exeter; and Powderham Castle near Exeter.
913	1883, April 2	DREWITT, GEORGE	94, High Street, Guildford.
419	A. '76, Jan. 10 F. '78, Feb. 25	DRIVER, CHARLES WILLIAM .	4, Whitehall, S.W.
9	1868, Jun. 15	DRIVER, ROBERT COLLIER . . *(Vice-President)*	4, Whitehall, S.W.
582	1880, Dec. 13	DRIVER, ROBERT MANNING . .	4, Whitehall, S.W.
684	1882, Jan. 16	DRURY, EDWARD DRU . . .	25, Queen Anne's Gate, S.W.
324	1874, Jan. 5	DUNCH, CHARLES.	District Board Offices, White House, Commercial Road, E.
252	1871, Jan. 30	DUNLOP, ALEXANDER MILNE . *(Member of Council)*	3, Old Palace Yard, Westminster, S.W.
792	1882, Apr. 24	DYER, WILLIAM JOHN . . .	Montpelier Row, Blackheath, S.E.
35	1868, Jun. 15	DYMOND, FRANCIS WILLIAMS .	Exeter.
864	1883, Jan. 15	EALES, FREDERICK ERNEST .	9, Welbeck Street, W.
102	1868, Aug. 3	EASTON, WILLIAM	6, Hammet Street, Taunton, Somersetshire.
639	1881, Dec. 19	EGERTON, HUBERT DECIMUS .	8, New Road, Oxford.
988	1883, Dec. 17	EGGAR, JAMES ALFRED . . .	9, West Street, Farnham, Surrey.
1173	1884, May 19	EGGINTON, JOHN	150, Friar Street, Reading.
530	A. 1879, Jan. 20 F. 1883, Dec. 3	EILOART, FREDERICK EDWARD .	40, Chancery Lane, W.C.
1036	1884, Jan. 14	ELLIOTT, CHARLES . . .	The Fawns, Ermington, Ivy Bridge, Devon.
30	1882, Dec. 18	ELLIS, HENRY	62, Chancery Lane, W.C.
885	1883, Feb. 12	ELLIS, RICHARD ADAM . . .	49, Fenchurch Street, E.C.
380	1875, Feb. 1	ELLIS, SIR JOHN WHITTAKER, BART.	5, Lancaster Place, W.C., and 18, Old Broad Street, E.C.
276	1872, Feb. 26	EMMANUEL, BARROW	2, Finsbury Circus, E.C.
898	1883, Feb. 26	EVANS, ROBERT	Eldin Chambers, Wheeler Gate, Nottingham.
338	A. 1874, Feb. 16 F. 1876, Nov. 27	EVANS, WILLIAM ERNEST . .	52, Abbey Foregate, Shrewsbury.
685	1882, Jan. 16	EVE, JOHN RICHARD	Silsoe, Ampthill, Beds.
104	1868, Aug. 3	EVE, WILLIAM	10, Union Court, Old Broad Street, E.C.
311	1873, May 5	EVES, GEORGE	Uxbridge, Middlesex.
557	1880, Jan. 5	FAIR, JACOB WILSON . . .	8, Winckley Street, Preston, & Haigh Hall, Wigan
1174	1884, May 19	FAIR, THOMAS	Estate Offices, Lytham, Lancashire.
1062	1884, Jan. 28	FARMER, EDMUND	80, Cheapside, E.C.
540	1879, Mar. 31	FARRAR, JAMES	12, Market Street, Bury, Lancashire.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
1037	1884, Jan. 14	FAYERMAN, GEORGE METCALFE	88, The Parade, Leamington, Warwickshire.
886	1883, Feb. 12	FELTON, GEORGE FREDERICK .	6, Church Walks, Llandudno.
974	1883, Nov. 12	FERRIS, GEORGE	Milton Manor, Pewsey, Wilts.
831	1882, Dec. 18	FIDDIAN, WILLIAM	98, High Street, Stourbridge.
297	1873, Jan. 27	FIELD, FRANCIS HAYWARD . .	Merton Street, Oxford.
872	1883, Jan. 29	FIELD, JAMES FREDERICK . .	57, Borough High Street, S.E.
1038	1884, Jan. 14	FLEETWOOD, GEORGE . . .	15, Furnival's Inn, E.C.
562	1880, Jan. 19	FLOCKTON, THOMAS JAMES . .	15, St. James' Row, Sheffield.
640	1881, Dec. 19	FORREST, ROBERT	Windsor Estate Office, St. Fagans, near Cardiff.
551	1879, Dec. 8	FORSHAW, EDWARD	Basford, Stoke-upon-Trent.
1039	1884, Jan. 14	FOSBERY, WILLIAM THOMAS EXHAM.	Warwick.
279	1872, Mar. 11	FOSTER, CHARLES ROLLS . .	54, Pall Mall, S.W.
1117	1884, Mar. 10	FOSTER, HENRY PAFOOT. . .	5, John Street, Adelphi, W.C.
641	1881, Dec. 19	FOSTER, JOSEPH BURGESS . .	4, Cambridge Street, Plymouth, Devon.
687	1882, Jan. 16	FOULKES, SEPTIMUS GIFFORD .	Tring, Herts.
686	1882, Jan. 16	FOWLER, FREDERICK. . . .	St. James' Street, Sheffield.
832	1882, Dec. 18	FOWLER, HENRY.	95, Colmore Row, Birmingham.
316	1873, Dec. 8	FOWLER, WILLIAM . . . . (*Member of Council.*)	95, Colmore Row, Birmingham.
921	1883, April 16	FRANKLIN, THOMAS	Ascot, near Wallingford.
922	1883, April 16	FRANKLIN, WILLIAM TAYLOR .	Ascot, near Wallingford.
734	1882, Feb. 13	FRYER, GEORGE	Rose Villa, Bishop Wilton, near York, and White Friar Gate, Hull.
369	1875, Jan. 18	FRY, GEORGE FREDERICK . .	46, London Road, Dover.
1063	1884, Jan. 28	FULLER, ERNEST.	98, Wimpole Street, W.
36	1868, Jun. 15	FULLER, FRANCIS.	63, St. Aubyn's Place, Cliftonville, Hove, Brighton.
1040	1884, Jan. 14	FULLER, HARRY	37, High Street, Croydon.
775	1882, Mar. 13	FURBER, HERBERT	2, Warwick Court, Gray's Inn, W.C.
1064	1884, Jan. 28	FURBER, WILLIAM	2, Warwick Court, Gray's Inn, W.C.
417	1876, Jan. 10	GAIRDNER, EDWARD JAMES . .	27, Southampton Buildings, W.C.
761	1882, Feb. 27	GALE, JOSEPH JOHN	Market Place, Wallingford, Berks.
819	1882, Nov. 13	GALPIN, CHARLES ALEXANDER .	26, Cornmarket Street, Oxford.
820	1882, Nov. 13	GALPIN, JOHN	26, Cornmarket Street, Oxford.
55	1868, Jul. 6	GALSWORTHY, FREDERICK THOMAS	11, Waterloo Place, S.W.
735	1868, Sep. 28	GARDINER, EDWARD JAMES . .	110, Great Russell Street, W.C.
127	1882, Feb. 13	GARDINER, WILLIAM JAMES . .	110, Great Russell Street, W.C.
98	A. 1868, Jul. 27 F. 1883, Nov. 12	GARRARD, ARTHUR	66, Cannon Street, E.C.
688	1882, Jan. 16	GATER, CALEB WILLIAM . . .	Salisbury, Wilts.
935	1883, April 30	GERMAN, GEORGE	Ashby-de-la-Zouch.
887	1883, Feb. 12	GERMAN, JOHN	Ashby-de-la-Zouch.
381	1875, Feb. 1	GILBERT, WILLIAM HENRY SAINSBURY	9, Old Jewry, E.C.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
569	1880, Feb. 2	GILLART, RICHARD	Machynlleth, Montgomeryshire.
213	1869, Dec. 6	GIRDWOOD, JAMES	18, Adam Street, Adelphi, W.C.
420	1876, Jan. 24	GLASIER, GEORGE HENRY BROUGHAM	41, Charing Cross, S.W.
989	1883, Dec. 17	GOODCHILD, JOSIAH	81, Finsbury Pavement, E.C.
314	A. '73, May 19 / F. '78, Mar. 11	GORE, SPENCER W.	16, Whitehall Place, S.W.
478	A. '77, Feb. 12 / F. '82, Dec. 18	GOTTO, FREDERICK EDWARD .	Stony Stratford, Bucks.
578	1880, Apr. 12	GOULDING, WILLIAM PURDHAM.	41, Moorgate Street, E.C.
302	1873, Feb. 10	GOUTHWAITE, RICHARD . . .	Lumby, near South Milford, Yorkshire.
370	1875, Jan. 18	GRAHAM, WILLIAM	Victoria Chambers, Newport, Monmouthshire
899	1883, Feb. 26	GRATTON, JOHN STERLAND . .	Midland Railway Station, Derby.
1086	1884, Feb. 11	GREAVES, JOHN	Penistone, near Sheffield.
690	1882, Jan. 16	GREEN, JAMES	22, Chancery Lane, W.C.
1188	1884, May 26	GREEN, SAMUEL	28 and 29, St. Swithin's Lane, E.C.
1087	1884, Feb. 11	GRELLIER, HARLEY MAIR . .	17, Abchurch Lane, E.C.
371	1875, Jan. 18	GREY, CHARLES GREY . . .	55, Parliament Street, Westminster, S.W.
433	1876, Mar. 20	GWYTHER, WILLIAM WARLOW .	43, Lincoln's Inn Fields, W.C.
347	1874, Mar. 16	HADDOCK, ROLAND	2, Abchurch Yard, E.C., and 21, High Street, Croydon, Surrey.
619	1881, May 2	HALL, ERNEST	166, Queen Street, Portsea, Hants.
517	1878, Dec. 9	HALL, JOHN GEORGE . . .	8, Masbro' Road, West Kensington, W.
923	1883, April 16	HALL, WALTER	High Court Chambers, Southampton Buildings, Chancery Lane, W.C.
1189	1884, May 26	HALLETT, WILLIAM BROWN. .	278, Holloway Road, N.
691	1882, Jan. 16	HAMILTON, HENRY	64 & 65, Coleman Street, E.C.
642	1881, Dec. 19	HARDCASTLE, FREDERICK HENRY APPLETON	34, Southampton Street, W.C.
481	A. '77, Mar. 26 / F. '82, Dec. 18	HARDING, EDWARD ERNEST .	16, St. Paul's Churchyard, E.C.
363	1875, Jan. 4	HARDING, JOSEPH	49, Lune Street, Preston.
643	1881, Dec. 19	HARDING, SIDNEY LONGHURST .	St. Albans, Herts.
409	1875, Dec. 13	HARDING, WILLIAM DANIEL . .	16, St. Paul's Churchyard, E.C.
482	A. '77, Mar. 26 / F. '82, Dec. 18	HARDING, WILLIAM DANIEL, JUN.	16, St. Paul's Churchyard, E.C.
1175	1884, May 19	HARMAN, JAMES AMBROSE . .	35, Walbrook, E.C.
496	A. 1878, Jan. 28 / F. 1883, Nov. 12	HARRINGTON, GEORGE FREDERICK	16, Abchurch Lane, E.C.
990	1883, Dec. 17	HARRIS, JAMES	Winchester, Hants.
263	1871, Feb. 27	HART, WILLIAM FREDERICK .	Lambeth Waterworks, Brixton Hill, S.W.
68	1868, Jul. 13	HARVEY, RICHARD HART . .	6, Victoria Place, Haverfordwest, Pembrokeshire
312	1873, May 19	HASLAM, DRYLAND	17, Friar Street, Reading.
644	1881, Dec. 19	HAYWARD, HENRY	Dover.
54	1868, Jul. 6	HAYWOOD, WILLIAM	Guildhall, E.C.
833	1882, Dec. 1	HEARD, HERBERT	Shepton Mallet, Somerset.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
692	1882, Jan. 16	HEATON, GEORGE HERBERT .	Endon, near Stoke-upon-Trent, Staffordshire.
617	1881, Apr. 4	HEBBLETHWAITE, LOUIS . .	Conservancy Buildings, Hull.
1088	1884, Feb. 11	HEDLEY, ROBERT WILKIN . .	31A, Colmore Row, Birmingham.
250	1871, Jan. 15	HEDLEY, THOMAS FENWICK . .	Sunderland.
620	1881, May 2	HEDLEY, THOMAS FENWICK, JUN.	Sunderland.
991	1883, Dec. 17	HERON, WILLIAM CHARLES . .	Uxbridge, Middlesex.
1065	1884, Jan. 28	HIGGINS, FREDERIC	Alford, Lincolnshire.
220	1870, Jan. 10	HILLIARD, GEORGE BRIDGE .	Chelmsford, Essex.
671	A. 1881, Dec. 19 / F. 1883, Nov. 12	HINE, GEORGE ERNEST . . .	5, Waterloo Place, S.W.
900	1883, Feb. 26	HINE, GEORGE THOMAS . .	Victoria Street, Nottingham.
70	1868, Jul. 13	HIPPISLEY, EDWIN	Chamberlain Street, Wells, Somersetshire.
815	1882, May 22	HITCHCOX, WILLIAM . . .	Victoria Chambers, Newport, Monmouthshire.
518	1878, Dec. 9	HOBGEN, FRANCIS NEALE . .	East Street, Chichester.
888	1883, Feb. 12	HOBSON, FREDERICK WILLIAM .	20, Coleman Street, E.C.
519	1878, Dec. 9	HODSON, GEORGE	Town Hall, Loughborough.
793	1882, Apr. 24	HOLBECHE, ROBERT NEVILLE .	21, Bennett's Hill, Birmingham.
357	1874, Nov. 16	HOLDEN, JOHN	64, Cross Street, Manchester.
1155	1884, May 5	HOLIDAY, FREDERICK DEAN .	Bicester, Oxfordshire.
693	1882, Jan. 16	HOLMES, JAMES	23, Delamere Street, Ashton-under-Lyne.
794	1882, Apr. 24	*HORNE, WILLIAM EDGAR . .	80, Fore Street, E.C.
11	1868, Jun. 15	HORSEY, THOMAS	11, Billiter Square, E.C.
174	1869, Feb. 22	HORSFALL, RICHARD	Halifax, Yorkshire.
194	1869, Apr. 5	HORWOOD, JAMES.	10, Paternoster Row, E.C.
645	1881, Dec. 19	HOVENDEN, THOMAS HENRY .	181, Bishopsgate Street Without.
171	A. '69, Feb. 8 / F. '83, Mar. 12	HUBBERSTY, HENRY ALFRED .	Buxton, Derbyshire.
986	1883, Apr. 30	HUDSON, ARTHUR BYRNE . .	19, Bennet's Hill, E.C.
1118	1884, Mar. 10	HUDSON, JAMES	Monkwray, Whitehaven.
128	1868, Sep. 28	HUDSON, WILLIAM	Hope Lodge, 181, Grove Lane, Camberwell, and 19, Bennet's Hill, E.C.
776	1882, Mar. 13	HULL, CHARLES	Euston Station, London, N.W.
137	1868, Nov. 2	HUMBERT, CHARLES F. . . .	Watford, Herts.
175	1869, Feb. 22	HUMPHREYS, CHARLES . . .	6, Crosby Square, Bishopsgate Street Within, E.C.
627	1881, Dec. 5	HUMPHREYS, HENRY . . .	Woodhouse, Loughborough, Leicestershire.
12	1868, Jun. 15	HUNT, SIR HENRY ARTHUR, C.B.	45, Parliament Street, Westminster, S.W.
353	1874, May 11	HUNT, HENRY ARTHUR, JUN. .	45, Parliament Street, S.W.
181	1869, Mar. 8	HUNT, JOSIAH	6, Queen Anne's Gate, Westminster, S.W.
13	1868, Jun. 15	HUSKINSON, THOMAS . . . (*Past-President*)	Epperstone, Nottingham.
326	1874, Jan. 19	HUSKINSON, WILLIAM LAMBE .	The Manor House, Epperstone, Nottingham.
176	1869, Feb. 22	HUSSEY, GEORGE HENRY . .	1, Gray's Inn Place, Gray's Inn, W.C.
37	1868, Jun. 15	I'ANSON, EDWARD . . . . (*Vice-President*)	7A, Laurence Pountney Hill, E.C.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
563	1880, Jan. 19	I'Anson, Edward Blakeway .	7A, Laurence Pountney Hill, E.C.
1137	1884, Apr. 21	Inge, Charles Henry . . .	Broom Leasoe, Whittington, Lichfield.
305	A. '73, Feb. 10 / F. '82, Jan. 16	Ingram, Walter Fielde . .	Firle, Lewes, Sussex.
834	1882, Dec. 18	Inman, Marshall Nisbet . .	7, Bedford Row, W.C.
835	1882, Dec. 18	Innocent, Charles John . .	Sheffield.
570	1880, Feb. 16	Jackson, Charles	25, Brazennose Street, Manchester.
209	1869, Jul. 26	Jackson, Frederick. . . .	Nottingham.
439	1876, Apr. 3	Jemmett, Alexander . . .	Nympsfield, Stonehouse, Stroud, Gloucester.
736	1882, Feb. 13	Jenkinson, William Wilberforce	6, Moorgate Street, E.C.
992	1883, Dec. 17	Jeudwine, William Wynne .	Chesterfield.
195	A. '69, Apr. 5 / F. '78, Feb. 25	Jonas, Henry	4, Whitehall, S.W.
95	1868, Jul. 27	Jonas, John Carter . . .	27, Market Hill, Cambridge.
777	1882, Mar. 13	Jones, Charles Frederick .	Temple Chambers, 32, Fleet Street, E.C.
694	1882, Jan. 16	Jones, Charles Jenkin . .	25, Queen Anne's Gate, S.W.
308	1873, Apr. 21	Jones, Henry Parr . . .	Portway House, Warminster.
646	1881, Dec. 19	Jones, James William . . .	54, Caledonian Road, Leeds.
1106	1884, Feb. 25	Joyce, John Hall	Blackfordly, near Burton-on-Trent.
993	1883, Dec. 17	Jurd, William	10, Oxford Street, Southampton.
1190	1884, May 26	Kedgley, Charles	Hibernia Chambers, London Bridge, E.C.
695	1882, Jan. 16	Keeling, Bassett	2, Tokenhouse Buildings, Lothbury, E.C.
580	1880, Nov. 8	Keirle, Robert	111, Victoria Street, S.W.
975	1883, Nov. 12	Kemsley, Joseph William . .	Woodford, Essex.
1191	1884, May 26	Kent, George Edward . .	130, Queen Street, Portsea, Hants.
873	1883, Jan. 29	King, Frank Hulme . . .	Horsham, Sussex.
1192	1884, May 26	King, Henry	Stourbridge, Worcestershire.
1193	1884, May 26	King, Thomas	130, Queen Street, Portsea, Hants.
191	1869, Mar. 22	King, William David . . .	Farlington Farm, Havant, Hants.
808	1882, May 8	Kingston, Samuel	Spalding, Lincoln.
129	1868, Sep. 28	Knollys, James Edward . .	Fitzhead Court, Taunton, Somerset.
264	1871, Feb. 27	Knowles, William	Albion Chambers, King Street, Gloucester.
107	1868, Aug. 3	Lambert, William	1, New Broad Street, E.C.
446	1876, Apr. 24	Lane, Cecil Newton . . .	Whiston Hall, Shifnal, Salop.
762	1882, Feb. 27	Langridge, George. . . .	Public Rooms, Tunbridge Wells, Kent.
600	1881, Jan. 24	Lansdown, George	5 & 7, Warwick Street, Charing Cross, S.W.
145	1868, Nov. 9	Laurance, John, Jun. . . .	Sexton Barns, Peterboro'.
1089	1884, Feb. 11	Law, Edmund	29, Abington Street, Northampton.
513	1878, Nov. 11	Leane, George Henry . .	21, Queen Anne's Gate, S.W.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
60	A. '68, July 6 / F. '82, May 8	Lee, Charles Williams	8, Adelphi Terrace, W.C.
332	1874, Feb. 2	Lee, Frederick	6, Great College Street, Westminster, S.W.
1090	1884, Feb. 11	Lee, William	143½, High Street, Guildford, Surrey.
229	1870, Feb. 7	Lees, John	Reigate, Surrey.
886	1882, Dec. 18	Lemon, James	Southampton.
717	1882, Jan. 30	Lepper, John Harrage	Town Hall, Bromley, Kent.
298	A. '73, Jan. 27 / F. '82, Apr. 24	Lermit, Alfred William	Singapore, Straits Settlements.
1156	1884, May 5	Le Rossignol, Francis	1, Gresham Buildings, Basinghall Street, E C.
1176	1884, May 19	Lethbridge, Walter	1, Leigham Villas, Plymouth.
763	1882, Feb. 27	Lewis, Francis Theodore	95, Gresham Street, E.C.
647	1881, Dec. 19	Lightfoot, Francis Lowry	3, Old Palace Yard, S.W.
901	1883, Feb. 26	Lighifoot, Henry Le Blanc	Lower Lawn, Tisbury, Salisbury.
737	1882, Feb. 13	Little, William Cutlack	Stag's Holt, March, Cambridgeshire.
648	1881, Dec. 19	Lock, William Henry	Instow, North Devon.
393	1875, Mar. 15	Lofts, Henry	130, Mount Street, Grosvenor Square, W.
1138	1884, Apr. 21	Looker, John	High Street, Huntingdon.
424	1876, Feb. 7	Lovejoy, Alfred	35, Bucklersbury, E.C.
738	1882, Feb. 13	Lowe, Charles Harlowe	Hampstead Vestry Hall, Haverstock Hill, N.W.
205	1869, Jul. 12	Lye, John Gaunt	8, Lancaster Place, W.C.
138	1868, Nov. 2	Macaulay, Colin Alexander	Leicester.
425	1876, Feb. 7	McCall, George	33, Victoria Chambers, Market Place, Blackburn.
161	1869, Jan. 25	Mann, Charles John	29, Great George Street, S.W.
373	1875, Jan. 18	Mann, Robert Wilks	7, Hobart Place, S.W.
192	1869, Mar. 22	Marr, James	8, Adam Street, Adelphi, W.C.
976	1883, Nov. 12	Martin, George Dennis	510, Mansion House Chambers, E.C.
434	1876, Mar. 20	Martin, Gilson	Chatsworth, Chesterfield.
364	1875, Jan. 4	Martin, Howard	27, Chancery Lane, W.C., and Bolney Grange, Havelock Road, Croydon.
230	1870, Feb. 7	Martin, James *(Member of Council)*	Wainfleet, Lincolnshire.
451	1876, May 8	Martin, John May	Castle Chambers, Exeter.
704	A. '82, Jan. 16 / F. '84, Jan. 28	Martin, Walter	Wainfleet, Lincolnshire.
1091	1884, Feb. 11	Mason, William Arthur	31A, Colmore Row, Birmingham.
403	1875, May 10	Mason, William Ludlam	The High Holme, Louth, Lincolnshire.
696	1882, Jan. 16	Masterman, George Hughes	37, Walbrook, E.C.
994	1883, Dec. 17	Mathews, George Spencer	15, Waterloo Street, Birmingham.
995	1883, Dec. 17	Mathews, Joseph Douglas	11, Dowgate Hill, E.C.
39	1868, Jun. 15	Mathews, William	15, Waterloo Street, Birmingham.
1066	1884, Jan. 28	Matthews, William	8, Delahay Street, S.W.
718	1882, Jan. 30	Maylard, Charles Grason	21, King William Street, Strand, W.C.
837	1882, Dec. 18	Maynard, Edward	22, Great George Street, S.W.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
552	1879, Dec. 8	MELLERSH, ALFRED WILLIAM .	Godalming, Surrey.
764	1882, Feb. 27	MESSENGER, WILLIAM HARRY .	Hullbrook, Guildford, Surrey.
697	1882, Jan. 16	MILLAR, CHARLES WILLIAM . .	14, Grafton Street, W.
1177	1884, May 19	MILLS, SAMUEL MEALING . .	Orford Hill, Norwich.
477	1877, Feb. 12	MINTER, WILLIAM	81, Bondgate, Darlington.
1194	1884, May 26	MONIER-WILLIAMS, STANLEY FAITHFULL	18 & 19, Gt. St. Helen's, E.C.
1119	1884 Mar. 10	MORRIS, HERBERT	Lewes, Sussex.
456	1876, Nov. 13	MORRIS, JOHN WARRINGTON .	Gracechurch Buildings, Gracechurch Street
607	1881, Feb. 7	MORTIMER, JOHN CAMDEN . .	5, Great Queen Street, S.W.
778	1882, Mar. 13	MULLETT, FREDERICK AUGUSTUS	Albion House, Hyde Park Square, W.
649	1881, Dec. 19	MULLINER, THOMAS	Albert Square, Manchester.
765	1882, Feb. 27	MUNRO, PHILIP	Bank Chambers, Corn Street, Bristol.
520	1878, Dec. 9	MURPHY, EDMUND	Dunfanaghy, Letterkenny, Ireland.
996	1883, Dec. 17	MURRAY, ROBERT LITTLE . .	15, Cheapside, Bradford.
809	1882, May 8	MYNORS, WALTER CHARLES TOWERS	Little Ingestre, Stafford.
164	A. '69, Jan. 25 / F. '82, Mar. 13	NASH, ALFRED JAMES . . .	Farnham, Surrey.
349	1874, Apr. 13	NAYLOR, ARTHUR MILLINGTON .	3, Old Palace Yard, Westminster, S.W.
139	1868, Nov. 2	NEALE, CHARLES JAMES . .	High Oakham, Mansfield, Notts.
551	1879, Feb. 3	NEAME, FREDERICK, JUN. . .	Macknade, Faversham, Kent.
795	1882, Apr. 24	NEATE, ARTHUR WEBB . . .	Hungerford, and Market Place, Newbury, B
414	A. '75, Dec. 13 / F. '82, Feb. 27	NEVILE, HENRY WILLIAM . .	Broughton Estate Office, 8, John Dalton S Manchester.
289	1872, Dec. 9	NEWMAN, FRANCIS	Ryde, Isle of Wight.
1041	1884, Jan. 14	NEWSAM, SAMUEL WATERHOUSE	13, Bond Street, Leeds.
739	1882, Feb. 13	NEWSON, HARRY CARSS . . .	57, Lincoln's Inn Fields, W.C.
374	1875, Jan. 18	NICHOLS, DANIEL CUBITT . .	3, Howard Street, Strand, W.C.
273	1872, Jan. 29	NISBET, RALPH P.	4, Dempster Terrace, St. Andrews, N.B.
401	1875, Apr. 26	NOCKOLDS, MARTIN	Saffron Walden, Essex.
435	1876, Mar. 20	NORMAN, JAMES MAURICE . .	Uxbridge, Middlesex.
182	1869, Mar. 8	NORMAN, WILLIAM	8, Spring Gardens, S.W.
85	1868, Jul. 20	NORTH, GEORGE	22, Whitehall Place, S.W.
958	1883, May 25	*NORTH, GEORGE FREDERIC . .	Wroxton Estate Office, near Banbury, Oxon
255	1871, Feb. 13	NOTLEY, RICHARD ALBERT . .	80, Cornhill, E.C.
698	1882, Jan. 16	NOTLEY, ROBERT PLEDGE . .	35, Bucklersbury, E.C.
59	1868, Jul. 6	OAKLEY, CHRISTOPHER . . . (*Member of Council*)	10, Waterloo Place, S.W.
486	1877, Apr. 30	OAKLEY, WILLIAM	10, Waterloo Place, S.W.
650	1881, Dec. 19	OBORNE, ALFRED WILLIAM . .	9, Moorgate Street, E.C., and Wimbledon Surrey.

p. o.	*Date of Election and of Transfer.*	FELLOWS.	
40	1882, Feb. 13	OSBORN, RICHARD	153, Fenchurch Street, E.C.
83	1869, Mar. 8	OWEN, THOMAS RULE . . .	High Street, Haverfordwest, Pembrokeshire.
42	1884, Jan. 14	PAGE, ROBERT	6, Duke Street, London Bridge, S.E.
06	A. '75, Nov. 8 / F. '81, April 4	PAIN, COARD SQUAREY . . .	14, North John Street, Liverpool, and 5, Victoria Street, Westminster, S.W.
38	1882, Dec. 18	PALMER, ALFRED	8, Lancaster Place, W.C.
65	1883, Jan. 15	PARMETER, FRANK	South View House, West Parade, Newcastle-on-Tyne.
95	1884, May 26	PARNELL, ROBERT	Oundle, Northamptonshire.
10	1883, Mar. 12	PARR, SAMUEL	7, Finsbury Square, E.C.
88	1872, Dec. 9	PARSONS, HENRY.	Misterton, Crewkerne, Somerset.
05	1875, Nov. 8	PATERSON, ROBERT	10, Hanover Street, Edinburgh.
01	1881, Jan. 24	PATTISSON, JACOB LUARD . .	6, Sussex Gardens, Hyde Park, W.
96	1881, Jan. 10	PAUL, EDWARD THEODORUS . .	13, Dickenson Street, Manchester.
57	1884, May 5	PAXTON, EDWARD HAYTON . .	Bicester, Oxfordshire.
48	1870, Dec. 12	PAXTON, JONAS	Bicester, Oxfordshire.
83	1880, Dec. 13	PAYNE, ALEXANDER	4, Storey's Gate, S.W.
19	1882, Jan. 30	PAYNE, FREDERICK	Town Hall, Bromley, Kent.
89	1883, Feb. 12	PEEBLES, ALEXANDER . . .	3, Salters' Hall Court, E.C.
21	1868, Jun. 15	PENFOLD, JOHN WORNHAM . . (*Honorary Secretary*)	29, Great George Street, Westminster, S.W.
452	1876, May 8	PEPPERCORN, JOHN HUTCHINSON	Manor House, Eaton Socon, St. Neots.
428	1876, Feb. 21	PHILLIPS, FREDERICK HAMILTON	Glamorganshire County Road Surveyor's Office, Eaglesbush, Neath, Glamorganshire.
043	1884, Jan. 14	PICKERING, WILLIAM CLOVES .	Ty Celyn, Llangerniew, Abergele.
651	1881, Dec. 19	PICKSTOCK, JOHN	Castle Hill, Winchester, Hants.
652	1881, Dec. 19	PODMORE, HENRY ROBERT BERESFORD	145, High Street, Croydon.
196	1884, May 26	POLLARD, HARRY EMANS . .	14, Duke Street, Adelphi, W.C.
997	1883, Dec. 17	POPPLEWELL, WILLIAM WILLOTT	Victoria Chambers, Southampton Buildings, W.C.; and Imperial Chambers, Derby.
699	1882, Jan. 16	PORTER, ALFRED	109, Grange Road, Bermondsey, S.E.
558	1880, Jan. 5	POTTS, JOSEPH, JUN. . . .	North Cliff, Roker, Sunderland.
224	1870, Jan. 24	POUNDLEY, JOHN EDWARD . .	Black Hall, Kerry, Montgomeryshire.
487	1877, May 14	POWELL, EVAN	Broomcliffe, Llanidloes, Montgomeryshire.
342	A. '74, Feb. 16 / F. '80, Nov. 22	POWELL, REGINALD HENRY . .	St. Swithin's Lane, High Street, Lewes, Sussex.
490	1877, Dec. 10	POWNALL, GEORGE HARRY . .	29, Parliament Street, S.W.
488	1877, May 14	PRIOR, RICHARD JAMES . . .	Canterbury, and 57, Lincoln's Inn Fields, W.C.
796	1882, Apr. 24	RABY, JOSEPH WALKER . . .	78, Cross Street, Manchester.
625	1881, Nov. 14	RABY, WILLIAM	78, Cross Street, Manchester.
902	1883, Feb. 26	RAWLENCE, ERNEST ALFRED .	Tower House, Salisbury.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
231	1870, Feb. 7	RAWLENCE, JAMES	Salisbury, Wilts.
134	1868, Oct. 26	RAYNBIRD, HUGH EDWARD . .	Basingstoke, Hants.
1139	1884, Apr. 21	READ, GEORGE HUNTLY . .	27, Albany Street, N.W.
839	1882, Dec. 18	REDDALL, DAVID GADSDEN. .	10, South Street, Finsbury, E.C.
584	1880, Dec. 18	REES, WILLIAM ANDREW . .	7, Cornhill, E.C.
544	1879, Apr. 28	REES, WILLIAM GEORGE . .	Holly House, Newport, Monmouthshire.
1044	1884, Jan. 14	REEVES, BENJAMIN AUSTEN. .	27, Chancery Lane, W.C.
514	1878, Nov. 11	REID, PATRICK SANDEMAN . .	20, John Street, Adelphi, W.C.
937	1883, April 30	RENDELL, ARTHUR STEPHEN .	Homefield, Coffinswell, Newton Abbot.
914	1883, April 2	RIDDLE, FREDERICK HENRY BRIMBLE	18, Queen Victoria Street, E.C.
172	A. '69, Feb. 8 F. '82, Feb. 13	REX, WILLIAM	311, Kentish Town Road, N.W.
453	A. '76, May 8 F. '81, Dec. 6	RICH, ROBERT	Weston Birt, near Tetbury, Gloucestershire
890	1883, Feb. 12	RICHARDS, ALFRED	8, New Broad Street, E.C.
1197	1884, May 26	RICHARDS, HENRY BRINLEY .	20, Coleman Street, E.C.
461	1876, Dec. 18	RICHARDSON, JOHN	Methley Park, Leeds.
303	1873, Feb. 10	RICKMAN, THOMAS MILLER .	8, Montague Street, Russell Square, W.C.
724	A. '82, Jan. 30 F. '83, Jan. 29	RIGDEN, HENRY WILLIAM . .	Salisbury, Wilts.
41	1868, Jun. 15	RIGDEN, RICHARD HENRY . .	Salisbury, Wilts.
784	1882, Mar. 27	ROBERTS, JAMES MACKENZIE .	Dedham, near Colchester, Essex.
120	1868, Aug. 17	ROBERTS, RICHARD	42, New Broad Street, E.C.
72	1868, Jul. 13	ROBINS, EDWARD COOKWORTHY.	14, John Street, Adelphi, W.C.
603	1881, Jan. 24	ROBINS, WILLIAM HENRY . .	82A, New Street, Birmingham.
618	1881, Apr. 4	ROBINSON, HENRY	7, Westminster Chambers, S.W.
810	1882, May 8	ROBINSON, NATHANIEL WISHART	Marlowes, Hemel Hempstead, Herts.
291	1872, Dec. 9	ROBSON, EDWARD ROBERT . .	41, Parliament Street, Westminster; and (Germain's Place, Blackheath, S.E.
536	1879, Mar. 17	ROBSON, HENRY	Melkridge House, Durham.
602	1881, Jan. 24	ROGERS, EDWARD PHIPPARD GEORGE	16, Borough, London Bridge, S.E.
825	1882, Dec. 4	ROGERS, ERNEST EDWARD . .	1, Prince of Wales Road, Norwich.
361	A. '74, Dec. 7 F. '76 Jan. 24	ROLLESTON, JOHN FOWKE LANCELOT	Grey Friars, Leicester.
125	1868, Aug. 31	ROSSER, WILLIAM	Llanelly, Carmarthen.
507	1878, Apr. 8	ROWE, RICHARD REYNOLDS . .	Park House, Cambridge.
315	A. '73, Dec. 8 F. '75, Nov. 8	RUSHWORTH, EDMUND WALTER	22, Savile Row, W.
998	1883, Dec. 17	RUTLEY, CHARLES	11, Dowgate Hill, E.C.
466	A. '76, Dec. 8 F. '80, Nov. 8	RYDE, ARTHUR LYON . . .	29, Great George Street, S.W.
16	1868, Ju . 15	RYDE, EDWARD . . . . (*Past-President*)	29, Great George Street, S.W.
421	1876, Jan. 4	SADLER, GEORGE WILLIAM . .	467, High Street, Cheltenham.
397	1875, Apr. 26	SANDAY, GEORGE HENRY . .	Langdale Lodge, Adkin Road, Clapham Park, S

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
741	1882, Feb. 13	SANDERS, THOMAS	Cheltenham.
458	1876, Nov. 27	SANDY, HENRY	Newport Road, Stafford.
167	1869, Feb. 8	SAUNDERS, CECIL GEORGE . .	5, Agar Street, Strand, W.C.
177	1869, Feb. 22	SAUNDERS, EDWARD	6, Bishopsgate Street Without, E.C.
121	1868, Aug. 17	SAVILL, ALFRED	3, St. Helen's Place, E.C.; and Chigwell, Essex.
526	1879, Jan. 6	SCARGILL, ALFRED	11, East Parade, Sheffield.
333	1874, Feb. 2	SCARTH, WILLIAM T. . . .	Raby Castle, Darlington.
629	A. '81, Dec. 5 F. '82, Apr. 24	SCOVELL, JOHN	Batsford, Moreton-in-the-Marsh, Gloucestershire.
392	1875, Mar. 1	SEARLE, FRANCIS WILLIAM . .	Marsh House, Tottenham, Middlesex.
534	1879, Mar. 3	SELBY, CHARLES FREDERIC . .	19, Queen Anne's Gate, S.W.
390	1875, Mar. 1	SHACKEL, GEORGE	12, The Forbury, Reading, Berks.
431	1876, Mar. 6	SHAW, JOHN	College Place, Derby.
939	1883, Dec. 17	SHEPPARD, OSBORNE	Glynelydach, Neath.
653	1881, Dec. 19	SHERLOCK, CORNELIUS . . .	63, South John Street, Liverpool.
474	A. '77, Jan. 29 F. '80, Nov. 8	SHOPPEE, CHARLES HERBERT .	61, Doughty Street, W.C.
74	1868, Jul. 13	SHOPPEE, CHARLES JOHN . . *(Member of Council)*	61, Doughty Street, W.C.
604	A. '81, Jan. 24 F. '83, May 21	*SILCOCK, THOMAS BALL. . .	14, Abbey Churchyard, Bath.
720	1882, Jan. 30	SIMMONDS, FREDERICK . . .	Parkside, Englefield Green, Surrey.
903	1883, Feb. 26	SIMMS, WALTER	27, Albany Street, N.W.
282	1872, Apr. 22	SLATER, GEORGE.	Canterbury.
593	A. '80, Dec. 12 F. '83 April, 30	SMALLPEICE, GEORGE BAKER .	9 and 10, Tokenhouse Yard, E.C.; and Guildford.
135	1868, Oct. 26	SMELLIE, THOMAS DAVIES . .	209, St. Vincent Street, Glasgow.
122	1868, Aug. 17	SMITH, CHARLES BOVILL . .	Wickham, Hants.
73	1868, Jul. 13	SMITH, CHARLES JOHN . . .	94, Cheyne Walk, Chelsea, S.W.
238	A. '70, Mar. 21 F. '78, Mar. 11	SMITH, CHARLES JOHN . . .	16, Whitehall Place, S.W.
454	A. '76, May 8 F. '81, Dec. 6	SMITH, HENRY	8, John Street, Adelphi, W.C.
400	A. '75, Apr. 26 F. '81, Jan. 24	SMITH, HENRY HERBERT . .	Chippenham, Wilts, and 7, Whitehall Place, S.W.
955	1883, May 25	SMITH, JOSEPH	15, Cheapside, Bradford, Yorkshire.
146	1868, Nov. 9	SOUTHWELL, CHARLES JOSIAH .	9, Whitehall Place, S.W.
96	1868, Jul. 27	SPACKMAN, HENRY	6, Terrace Walks, Bath.
1107	1884, Feb. 25	SPURLING, HENRY	Shotley, near Ipswich, Suffolk.
42	1868, Jun. 15	SQUAREY, ELIAS PITTS . . . *(Vice-President)*	The Moot, Downton, Salisbury; and 22, Great George Street, S.W.
1067	1884, Jan. 28	SQUIRE, RICHARD	2, Pont Street, Belgrave Square, S.W.
256	1871, Feb. 13	ST. QUINTIN, PERRY. . . .	37, Threadneedle Street, E.C.
840	1882, Dec. 18	STANGER, CALEB.	21, Finsbury Pavement, E.C.
123	1868, Aug. 17	STANLEY, HENRY	Bury St. Edmunds, Suffolk.
43	1868, Jun. 15	STATTER, THOMAS	Standhall, Whitefield, Manchester.
469	1877, Jan. 15	STENNING, ALEXANDER ROSE .	121, Cannon Street, E.C.
44	1868, Jun. 15	STEPHENSON, CHARLES . . .	45, Parliament Street, Westminster, S.W.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
529	A. '79, Jan. 6 / F. '82, Nov. 13	Stephenson, Charles William	38, Parliament Street, S.W.
422	1876, Jan. 24	Stephenson, Christopher. .	Naworth Estate Office, Brampton, Cumberla
1198	1884, May 26	Stevens, William Charles .	22, Savile Row, W.
97	1868, Jul. 27	Steward, Herbert Thomas .	45, Parliament Street, S.W.
938	1883, April 30	Stock, Henry	6, Duke Street, London Bridge, S.E.
654	1881, Dec. 19	Stoner, Alfred.	8, Blomfield Street, E.C.
1108	1884, Feb. 25	Strudwick, Hayward James .	Montague Chambers, 10 & 11, Bedford Str Strand, W.C.
655	1881, Dec. 19	Strudwick, William Henry .	14, Parliament Street, S.W.
87	1868, Jul. 20	Sturge, Robert Fowler . .	34, Corn Street, Bristol.
18	1868, Jun. 15	Sturge, William . . . . (*Past-President*)	34, Corn Street, Bristol.
337	1874, Feb. 16	Sworder, George Edward .	Bishop's Stortford, Herts.
386	1875, Feb. 15	Sworder, William	Stapleford Tawney Hall, near Romford, Esse
1068	1884, Jan. 28	Symons, Philip	Fore Street, Totnes, Devon.
1092	1884, Feb. 11	Tanner, James Melhuish . .	Wembworthy, North Devon.
233	A. '70, Feb. 7 / F. '78, Jan. 28	Tatham, George Henry . .	1, Walbrook, E.C.
1069	1884, Jan. 28	Tewson, Edward	80, Cheapside, E.C.
924	1883, April 16	Theobald, Henry Wells Dewhurst	110, Great Russell Street, W.C.
329	1874, Jan. 19	Thomas, Josiah	Athenæum Chambers, Nicholas Street, Bristo
841	1882, Dec. 18	Thompson, Arthur Edward .	72A, Old Broad Street, E.C.
237	A. '70, Feb. 21 / F. '82, Jan. 30	Thompson, Charles William .	Guildhall, London, E.C.
656	1881, Dec. 19	Thompson, Edward James . .	The Willows, Moss Lane, Timperley, Manches
1000	1883, Dec. 17	Thorpe, William	Nailstone, Hinchley.
657	1881, Dec. 19	Thurgood, Herbert John .	27, Chancery Lane, W.C.
494	1878, Jan. 14	Thursfield, Thomas Howells	Barrow, Brosely, Shropshire.
45	1868, Jun. 15	Thynne, Edward Lewis . .	11, Great George Street, S.W.
155	1869, Jan. 11	Thynne, Frederick George .	11, Great George Street, S.W.
1070	1884, Jan. 28	Thynne, Guy Harry . . .	11, Great George Street, S.W.
742	1882, Feb. 13	Tiffen, Joseph	Conservancy Buildings, Hull.
376	1875, Jan. 18	Tolley, James	66, Cannon Street, E.C.
766	1882, Feb. 27	Tootell, Charles	13, King Street, Maidstone, Kent.
472	1877, Jan. 29	Tootell, Joseph	Maidstone, Kent.
767	1882, Feb. 27	Tootell, Joseph, Jun. . . .	13, King Street, Maidstone, Kent.
473	1877, Jan. 29	Tootell, Richard William .	11, Queen Victoria Street, E.C.
447	1876, Apr. 24	Tower, Brownlow Richard Christopher	The Old House, Kibworth, Harcourt, Leicest shire.
1001	1883, Dec. 17	Trethewy, Henry	Silsoe, Ampthill, Beds.
19	1868, Jun. 15	Trist, George	62, Old Broad Street, E.C.
355	1874, May 11	Trollope, Charles Brown .	13, Parliament Street, Westminster, S.W.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
1140	1884, Apr. 21	TROUTBECK, ROBERT	Maidstone, Kent.
92	1868, Jun. 15	TRUMPER, RICHARD	23, Lincoln's Inn Fields, W.C.
110	1868, Aug. 3	TUCKETT, PHILIP DEBELL	10A, Old Broad Street, E.C.
521	1878, Dec. 9	TUNLEY, GEORGE	14, Clement's Lane, E.C.
1199	1884, May 26	TURNBULL, THOMAS JOHN	Wimborne St. Giles, near Cranborne, Dorset.
904	1883, Feb. 26	TURNER, FREDERICK JOHN	Mansfield-Woodhouse, Mansfield, Notts.
1071	1884, Jan. 28	TURNER, JOHN	The Grange, Ulceby, Lincolnshire.
168	1869, Feb. 8	TURNER, WILLIAM	1, Butter Market, Ipswich, Suffolk.
548	1879, May 12	TURNER, WILLIAM WEBB	9, Clinton Place, Seaford, Sussex.
905	1883, Feb. 26	VAIZEY, JOHN GEORGE	Bocking, Braintree, Essex, and 68A, Lincoln's Inn Fields, W.C.
571	1880, Feb. 16	VAUGHAN, EVAN	6, Moorgate Street, E.C.
1002	1883, Dec. 17	VEEVERS, RICHARD	Woningworth, Fulwood Park, Preston.
319	A. '73, Dec. 8 F. '78, Nov. 11	VENABLES, FREDERICK	62, Chancery Lane, W.C.
429	1876, Feb. 21	*VERNON, ARTHUR	Borshams, High Wycombe, Bucks; and 26, Great George Street, Westminster, S.W.
573	1880, Mar. 1	*VERNON, WALTER LIBERTY	4, Trinity Street, Hastings; and 26, Great George Street, Westminster, S.W.
816	1882, May 22	VIDLER, JAMES COLEMAN	Rye and Hastings, Sussex.
418	1876, Jan. 10	VIGERS, ASTLEY	4, Frederick's Place, E.C.
268	1871, Dec. 4	VIGERS, EDWARD, JUN.	38, Parliament Street, Westminster, S.W.
20	1868, Jun. 15	VIGERS, FRANCIS *(Member of Council)*	4, Frederick's Place, E.C.
498	A. '78, Jan. 28 F. '83, Nov. 12	VIGERS, LESLIE ROBERT	4, Frederick's Place, Old Jewry, E.C.
46	1868, Jun. 15	VIGERS, ROBERT *(Member of Council)*	4, Frederick's Place, E.C.
293	1872, Dec. 9	VULLIAMY, GEORGE	Metropolitan Board of Works, Spring Gardens, S.W.
842	1882, Dec. 18	WADE, JOHN	Barnsley.
658	1881, Dec. 19	WAINWRIGHT, CHARLES RAWLINSON	Shepton Mallet, Somerset.
843	1882, Dec. 18	WAINWRIGHT, CHARLES RAWLINSON, JUN.	Shepton Mallet, Somerset.
906	1883, Feb. 26	WAISTELL, WILLIAM	Barnard Castle, Durham, and 6, Arden Street, Darlington.
1093	1884, Feb. 11	WALKER, EDWARD ROBINSON	31, John Street, Bedford Row, W.C.
743	1882, Feb. 13	WALKER, HERBERT	Newcastle Chambers, Angel Row, Nottingham.
659	1881, Dec. 19	WALKER, SAMUEL	22, Moorgate Street, E.C.
1072	1884, Jan. 28	WALL, GEORGE YOUNG	Exchequer Buildings, Durham.
1178	1884, May 19	WALLACE, HENRY	Trench Hall, Gateshead-on-Tyne, Co. Durham.
785	1882, Mar. 27	WALMISLEY, ARTHUR THOMAS	5, Westminster Chambers, S.W.
925	1883, April 16	WARD, JOHN GEORGE RODNEY	Yatton Court, Kingsland, Herefordshire.
660	1881, Dec. 19	WARE, CHARLES EDWIN	Gandy Street Chambers, Exeter.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
1141	1884, Apr. 21	WARING, CHARLES EDWARD	St. John's Square, Cardiff.
162	1869, Jan. 25	WARING, THOMAS	St. John's Square, Cardiff.
189	A. '69, Mar. 8 / F. '75, Apr. 12	WARNER, WILLIAM HENRY	130, Mount Street, Grosvenor Square, W.
874	1883. Jan. 29	WATERMAN, JAMES	Ashford, Kent.
1109	1884, Feb. 25	WATERMAN, RICHARD	20, Week Street, Maidstone, Kent.
1110	1884, Feb. 25	WATERS, FRANK	1, Sydney Street, Cambridge.
47	1868, Jun. 15	WATNEY, DANIEL. (*Member of Council*)	62, Old Broad Street, E.C.
574	1880, Mar. 1	WATSON, HERBERT EDWARD	Clifton, York.
797	1882, Apr. 24	WATSON, JOHN	Shirburn Castle, Tetsworth, Oxon.
467	A. '76, Dec. 18 / F. '79, Nov. 10	WATTS, CHARLES	25, Bedford Row, W.C.
1003	1883, Dec. 17	WATTS, JAMES	Broad Street, Wokingham, Berks.
284	1872, May 6	WEALL, JOHN	38, High Street, Watford.
1045	1884, Jan 14	WEATHERALL, HENRY	22, Chancery Lane, W.C.
700	1882, Jan. 16	WEAVER, WILLIAM	Town Hall, Kensington, W.
215	1869, Dec. 6	WEBB, GEORGE	Tunstall, Sittingbourne, Kent.
661	1881, Dec. 19	WELLSTED, WILLIAM HENRY	Manor Street, Kingston-upon-Hull.
744	1882, Feb. 13	WESTBURY, GEORGE HENRY	The Knoll, Andover, Hants.
88	1868, Jul. 20	WESTBURY, GILES	Andover, Hants.
779	1882, Mar. 13	WHARTON, THOMAS GEORGE	1, Basinghall Street, E.C.
147	1868, Nov. 9	WHICHCORD, JOHN	Palace Chambers, 9, Bridge Street, Westmins
745	1882, Feb. 13	WHITE, JOHN.	Warrington, Lancashire.
701	1882, Jan. 16	WHITELEY, CHARLES PERRY	76, Queen Street, E.C.
350	1874, Apr. 27	WIDNELL, FREDERICK GRAINGER	13, Parliament Street, Westminster, S.W.
234	A. '70, Feb. 7 / F. '76, Nov. 13	WIGRAM, JOHN	South Collingham, Newark, Notts.
721	1882, Jan. 30	WILKINSON, GEORGE AYSCOUGH	7, Poultry, E.C.
915	1883, April 2	WILKINSON, WILLIAM	St. Stephen's Chambers, Telegraph Street, E
89	1868, Jul. 20	WILLIAMS, GEORGE BARNES	Frederick's Place, E.C.
1094	1884, Feb. 11	WILLIAMS, JOHN	Gwernhefin, Bala, North Wales.
240	1870, May 9	WILLIAMS, STEPHEN WILLIAM	Rhayader, Radnorshire.
575	1880, Mar. 1	WILLIAMS, WILLIAM	Salop Road, Oswestry.
116	1868, Aug. 10	WILLMOT, FRANCIS	6, Waterloo Street, Birmingham.
1004	1883, Dec. 17	WILSON, JACOB	Chillingham, Alnwick; and 5, Great Gee Street, S.W.
662	1881, Dec. 19	WILSON, THOMAS SILK	Albert Square, Manchester.
844	1882, Dec. 18	WING, WILLIAM	Caversham, Reading.
48	1868, Jun. 15	WITHALL, RICHARD AUGUSTUS	29, Great George Street, Westminster, S.W.
50	1868, Jun. 15	WOOD, FREDERICK	34, Regency Square, Brighton.
76	1868, Jul. 13	WOOD, WILLIAM BRYAN	Langley Green, Chippenham, Wilts.
663	1881, Dec. 19	WOODS, HENRY	19 & 20, Walbrook, E.C.
304	1873, Feb. 10	WOODCOCK, RICHARD	20, Darlington Street, Wolverhampton.
845	1882, Dec. 18	WOODHAMS, JAMES	50, Havelock Road, Hastings.

Dip. No.	*Date of Election and of Transfer.*	FELLOWS.	
391	1875, Mar. 1	WOODTHORPE, EDMUND. . .	2, Coleman Street Buildings, Moorgate St., E.C.
613	1881, Feb. 21	WOOLLEY, REGINALD. . . .	South Collingham, Newark, Notts.
427	A. '76, Feb. 7 / F. '80, Nov. 8	WOOLLEY, THOMAS CECIL SMITH	South Collingham, Newark, Notts.
51	1868, Jun. 15	WOOLLEY, THOMAS SMITH . . (*President*)	South Collingham, Newark, Notts.
267	A. '71, Nov. 13 / F. '77, Jan. 29	WOOLLEY, WILLIAM EDWARD .	Loughborough, Leicestershire.
1200	1884, May 26	WRIGHT, JAMES	Irongate, Derby.
292	1872, Dec. 9	WRIGHT, WILLIAM EDWARD .	King's Lynn, Norfolk.
283	1872, Apr. 22	WRIGHT, WILLIAM	Wollaton, Nottinghamshire.
722	1882, Jan. 30	WYATT, OLIVER NEWMAN . .	St. John Street, Chichester.
1119	1884, Mar. 10	WYLEY, HENRY JAMES . . .	Bridgnorth, Shropshire.
430	1876, Feb. 21	YEOMAN, GEORGE DUNDAS . .	Priory Lodge, Bedford, Bedfordshire.

Professional Associates.

The names of those Professional Associates who have qualified for the Class by Examination are distinguished thus *

Dip. No.	*Date of Election.*		
664	1881, Dec. 19	ADKIN, CHARLES DUNCAN . .	Wantage, Berks.
943	1883, May 21	ATTENBOROUGH, ALFRED . .	Lisbon Berlyn Goldfields Company, Lydenburg, Transvaal, S. Africa.
798	1882, Apr. 24	AYRES, CHARLES PRYOR . .	Gresham Lodge, Watford, Herts.
140	1868, Nov. 2	BADCOCK, PHILIP.	9, Whitehall Place, S.W.
665	1881, Dec. 19	BAILEY, LEONARD	Leigham Court Road, Streatham.
1005	1883, Dec. 17	BAIRD, JONATHAN PEEL . . .	Estate Office, Somerley, Ringwood, Hants.
553	1879, Dec. 8	BALDING, ALBERT	Barkway, Herts.
1111	1884, Feb. 25	BALLARD, WILLIAM WASHINGTON	31, John Street, Bedford Row, W.C.
622	1881, May 16	BEADEL, HENRY GRANT . . .	97, Gresham Street, E.C.
148	1868, Nov. 9	BEAUCHAMP, CHARLES DAVIE .	9, Whitehall Place, S.W.
564	1880, Jan. 19	BECK, T. COKER	Sherborne St. John, Basingstoke, Hants.
959	1883, May 25	*¶ BEDELLS, CHARLES HERBERT .	6, John Street, Bedford Row, W.C.
875	1883, Jan. 29	BENSON, THOMAS	Park Farm Office, Woburn, Bedfordshire.
500	1878, Feb. 11	BEVAN, WALTER	Melton Hill, Townsville, Queensland.
383	1875, Feb. 1	BIDWELL, SHELFORD . . .	9, Whitehall Place, S.W.
876	1883, Jan. 29	BISHOP, REGINALD GEORGE .	2, Godliman Street, Doctors' Commons, E.C.
382	1875, Feb. 1	BLAKEWAY, JOHN	5, Bloomsbury Square, W.C.
511	1878, May 13	BLOSSE, EDWARD F. LYNCH .	23, The Parade, Cardiff.

¶ Passed Fellowship Examination, 1884.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	
1158	1884, May 5	BLUNT, HERBERT ARTHUR SCAWEN	Firle, Lewes, Sussex.
768	1882, Feb. 27	BOA, ANDREW.	Great Thurlow, Newmarket, Suffolk.
977	1883, Nov. 12	BOND, ARTHUR ERASMUS . .	108, Jermyn Street, St. James's, S.W.
1159	1884, May 5	BOND, FREDERICK GEORGE . .	Old Bank House, Ipswich.
960	1883, May 25	*BONTOR, FRANK ARTHUR . .	5, Lancaster Place, W.C.
542	1879, Mar. 31	BOODLE, FRANCIS EDWARD . .	55A, Davies Street, Berkeley Square, W.
846	1882, Dec. 18	BOOTH, JOHN FREDERICK . .	25, Windle Street, St. Helen's, Lancashire.
666	1881, Dec. 19	BRADLY, WILLIAM	Metropolitan Board of Works, Spring Garde S.W.
1073	1884, Jan. 28	BROWN, ALEXANDER	Home Farm, Hothfield, Ashford.
847	1882, Dec. 18	BROWN, WILLIAM ARTHUR . .	146, Goswell Road, E.C.
1142	1884, Apr. 21	BROWNE, FLINT	91, Queen Street, E.C.
1046	1884, Jan. 14	BRUCE, ROBERT KNIGHT. . .	Mentmore, Leighton Buzzard, Bucks.
944	1883, May 21	BUCKLAND, WILLIAM THOMAS .	9, Whitehall Place, S.W.
1160	1884, May 5	BUTTERWORTH, JOSIAH . . .	Mansfield, Notts.
799	1882, Apr. 24	CARD, HENRY	North Street, Lewes, Sussex.
249	1870, Dec. 12	CARDALL, FREDERIC WILLIAM .	9, Whitehall Place, S.W.
1201	1884, May 26	CASTLE, SYDNEY CHARLES COURTENAY.	21, Euston Square, N.W.
241	1870, May 9	CATLING, ROBERT CHARLES . .	Needham Hall, Elm, Cambridgeshire.
1006	1883, Dec. 17	CHAPMAN, VAUGHAN GODFREY ST. JOHN	76, Queen Street, E.C.
1121	1884, Mar. 10	CHESTER, WILLIAM RICHARD .	3, St. Helen's Place, E.C.
978	1883, Nov. 12	CHEVALLIER, HARVEY . . .	29, Molacca Street, Singapore, Straits Setts ments.
1112	1884, Feb. 25	CHRISTY, ARCHIBALD ERNEST .	North Curry, Taunton, Somerset.
586	1880, Dec. 13	CLARK, HARDING THOMAS . .	4, Agar Street, Strand, W.C.
1074	1884, Jan. 28	CLARKE, HOWARD CHATFEILD .	63, Bishopsgate Street Within, E.C.
1007	1883, Dec. 17	CLARKE, PERCY HENRY . . .	2, Lancaster Place, W.C.
426	1876, Feb. 7	CLAYDEN, WALTER	6, Moorgate Street, E.C.
1122	1884, Mar. 10	CLIFTON, WILLIAM EDWARD .	7, East India Avenue, E.C.
1202	1884, May 26	COLLIER, ARTHUR CHARLES .	Woodhatch, Reigate.
826	1882, Dec. 4	COLLINS, MARCUS E. . . .	61, Old Broad Street, E.C.
320	1874, Jan. 5	COOKE, WILLIAM GEORGE . .	Engineer's Office, L. & S. W. Ry., Waterl Bridge Station.
746	1882, Feb. 13	COOKE, WILLIAM STEPHEN . .	9, New Broad Street, E.C.
623	1881, May 16	CONNELLY, JOHN JOSEPH . .	Rugby Chambers, Great James Street, W.C.
926	1883, April 16	COUCHMAN, HENRY BOTELER .	Cherry Street, Birmingham.
598	1881, Jan. 10	COURTHOPE, ALEXANDER . .	Bignor Park, Pulborough, Sussex.
747	1882, Feb. 13	COWPER, RICHARD WILLIAM. .	81, High Street, Sittingbourne, Kent
222	1870, Jan. 10	CRAWLEY, WILLIAM JEEVES . .	10, Waterloo Place, Pall Mall.
961	1883, May 25	*CRAWTER, JOHN, Jun. . . .	5, Bedford Row, W.C.

Dip. No.	*Date of Election.*	PROFESSIONAL ASSOCIATES.	
615	1881, Mar. 21	CRESSWELL, JOHN THEODORE ROSS	9, Whitehall Place, S.W.
608	1881, Feb. 7	CROFTS, EWAN NEVILE	Thornham, Eye, Suffolk.
891	1883, Feb. 12	CROSS, JOHN	80, Cheapside, E.C.
537	1879, Mar. 17	CUDLIPP, WILLIAM	62, Old Broad Street, E.C.
877	1883, Jan. 29	CUMBERBATCH, CARLTON PARRY	9, Whitehall Place, S.W.
945	1883, May 21	DAFFARN, THOMAS ALFRED	41, Charing Cross, S.W.
723	1882, Jan. 30	DANSIE, FREDERICK CROWN	4, Frederick's Place, E.C.
907	1883, Feb. 26	DASH, ROLAND ASHFORD	9, Whitehall Place, S.W., and The Hollies, Feltham, Middlesex.
399	1875, Apr. 26	DASHWOOD, FREDERICK LOFTUS	Kirtlington, Oxford.
848	1882, Dec. 18	DAVID, EDMUND USSHER	Llandaff, near Cardiff.
780	1882, Mar. 13	DAVIS, CHARLES JAMES	32, Strand, W.C.
946	1883, May 21	DAWSON, HENRY AUFRERE	St. Leonard's, Tooting.
1008	1883, Dec. 17	DAWSON, WALTER HENRY	19, St. Edmund's Terrace, Regent's Park, N.W.
1009	1883, Dec. 17	*DAY, WILLIAM	23, High Street, Maidstone, Kent.
1010	1883, Dec. 17	DEMETRIADI, THOMAS MARSDEN	West Hill, Huddersfield.
878	1883, Jan. 29	DOBIE, HENRY	Rock House, Maidstone, Kent.
748	1882, Feb. 13	DREW, ALLEN	80, Cheapside, E.C.
1095	1884, Feb. 11	DREW, JOHN GOULD	15, Queen Street, Exeter.
202	1869, Jun. 28	EASTON, EDWARD	9, Delahay Street, S.W.
484	1877, Apr. 16	EDWARDS, JOHN FREDERICK JAMES	Orleton, Tenbury, Worcestershire.
1011	1883, Dec. 17	ELLIS, CHARLES GODWIN	14, Fitzjohn's Parade, Finchley Road, N.W.
939	1883, April 30	ELLIS, EDWARD FELIX	5, Lancaster Place, W.C.
577	1880, Mar. 15	ELLIS, ERNEST HAROLD	132, High Street, Guildford.
1113	1884, Feb. 25	ELLIS, LEONARD ASHBY	Howard Road, Reigate, Surrey.
667	1881, Dec. 19	ELWELL, WILLIAM HENRY	Surveyor's Office, Great Northern Railway, King's Cross, N.
1047	1884, Jan. 14	EVANS, TOM AUGUSTUS JOHN	3, Old Palace Yard, S.W.
170	1869, Feb. 8	FAWCETT, JAMES POGUE	5, Lancaster Place, W.C.
565	1880, Jan. 19	FENNING, HERBERT SAMUEL	The Avenue, Bedford, Bedfordshire.
609	1881, Feb. 7	FEW, HARRY GARRARD	Market Place, Newbury.
921	1883, April 16	FISHER, CHARLES BROWNING	Hill Crest, Market Harborough.
1123	1884, Mar. 10	FITNESS, JOHN FRANCIS	80, Cheapside, E.C.
916	1883, April 2	FLETCHER, GEORGE RIVERS	10A, Old Broad Street, E.C.
1075	1884, Jan. 28	FLINT, LESLIE SENTANCE	10, Market Square, Bromley, Kent.
749	1882, Feb. 13	FLINT, WILLIAM HURST	5, Lancaster Place, W.C.
1114	1884, Feb. 25	FREEMAN, SYDNEY	The Public Rooms, Tunbridge Wells, Kent.
750	1882, Feb. 13	FULLER, GEORGE JOHN	85 & 87, Gresham Street, E.C.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	
947	1883, May 21	FULLER, HERBERT HENRY . .	85 & 87, Gresham Street, E.C.
1124	1884, Mar. 10	FULLER, THOMAS ALFRED . .	The College, All Saints', Derby.
751	1882, Feb. 13	FURBER, HENRY AUBREY . .	42, Marlborough Hill, N.W.
849	1882, Dec. 18	FYFE, GEORGE PETERS COLLIER	4, Walm Lane, Willesden Park, N.W.
702	1882, Jan. 16	GARROD, HERBERT JAMES . .	Bell Street, Reigate, Surrey.
1203	1884, May 26	GAYFORD, HENRY JOHN . . .	Raynham Estate Office, East Raynham, Norfol
1161	1884, May 5	GIBB, WILLIAM PASHLEY . .	36, Chancery Lane, W.C.
522	1878, Dec. 9	GIBSON, WALTER MATTHEW .	Privy Purse Office, Buckingham Palace, S.W.
956	1883, May 25	GORE, WILLIAM JOLL	7, Hobart Place, S.W.
1096	1884, Feb. 11	GOW, JAMES	9, Whitehall Place, S.W.
979	1883, Nov. 12	GRANT, HARRY GRÆME . . .	Surveyor's Office, Great Western Railwa Paddington, W.
827	1882, Dec. 4	GRANT, JAMES	Dol-llys, Cottage, Llanidloes, Montgomeryshire
1012	1883, Dec. 17	GREEN, JAMES HENRY TOWNSEND	22, Chancery Lane, W.C.
1076	1884, Jan. 28	GRIMWADE, HENRY	Colchester, Essex.
703	1882, Jan. 16	GURNEY, HAROLD	8, Upper Hamilton Terrace, N.W.
1179	1884, May 19	HALL, CHARLES PELL . . .	Newcastle Estate Office, Worksop, Notts.
770	1882, Feb. 27	HAMILTON, JOHN PAYNTER . .	64 and 65, Coleman Street, E.C.
892	1883, Feb. 12	HANSELL, REGINALD GODDARD.	4, Charlotte Street, Bedford Square, W.C.
1013	1883, Dec. 17	HARLAND, ARTHUR	170, Stanhope Street, N.W.
614	1881, Feb. 21	HARPER, EDGAR JOSIAH . .	Estate Office, Metropolitan Board of Work Spring Gardens, S.W
523	1878, Dec. 9	HARVEY, JOHN JAMES SAYER .	24, Mount Charles, Belfast.
962	1883, May 25	*HASLUCK, LANCELOT GERALD .	Green Hill Park, New Barnet, Herts.
1014	1883, Dec. 17	HEBDEN, GEORGE RADCLIFFE .	66, Cannon Street, E.C.
588	1880. Dec. 13	HEDGER, ARTHUR CONSTANTINE	80, Cheapside, E.C.
821	1882, Nov. 13	HENDERSON, HENRY ARTHUR .	Moorgate Station Buildings, 63, Finsbury Pave ment, E.C.
928	1883, April 16	HENRY, EDWARD HUGH . . .	2, The Pavement, Clapham Common, S.W.
850	1882, Dec. 18	HEWITT, WILLIAM	62, Commercial Street, Hereford.
948	1883, May 21	HICKS, STANLEY	Oakfield, Streatham Hill, S.W.
1015	1883, Dec. 17	HINCHLIFFE, JOHN, JUN. . .	Bullhouse Hall, Pennistone, Sheffield.
1180	1884, May 19	HODSOLL, WILLIAM, JUN. . .	Farningham, Kent.
908	1883, Feb. 26	HOLBECHE, ÆMILIAN HENRY .	26, Pinfold Gate, Loughborough.
893	1883, Feb. 12	HOLLAND. THOMAS JAMES, JUN.	1, Pembroke Cottages, Edwardes Square, Kensington, W.
879	1883, Jan. 29	HOLMES, JAMES THOMAS . .	97, Gresham Street, E.C.
822	1882, Nov. 13	HOMFRAY, WILLIAM FRANCIS .	Rease Heath Estate Office, Nantwich, Cheshire.
1181	1884, May 19	HOOPER, ALFRED FREDERICK .	Junction Road, Andover, Hants.
1097	1884, Feb. 11	HOPE, WILLIAM ELLIOTT . .	91, Tufnell Park Road, N.
1048	1884, Jan. 14	HOPKINS, EDWIN	9, Whitehall Place, S.W.

Dip. No.	*Date of Election.*	PROFESSIONAL ASSOCIATES.	
90	1868, Jul. 20	HORSLEY, RICHARD	11, Bull-and-Mouth Street, E.C.
866	1883, Jan. 15	HOWELL, ERNEST JOHN . .	47, Lower Belgrave Street, S.W.
1016	1883, Dec. 17	HUSKINSON, THOMAS WILLIAM .	Epperstone Manor, Nottingham.
1017	1883, Dec. 17	HUSSEY, GEORGE HENRY CLELAND	1, Gray's Inn Place, W.C.
1182	1884, May 19	HUSSEY, ROBERT	Hitchin, Hertfordshire.
1162	1884, May 5	I'ANSON, BRYAN WALTER . .	Silsoe, Ampthill, Beds.
610	1881, Feb. 7	INGLEBY, HERBERT	7, Whitehall Place, S.W.
851	1882, Dec. 18	INGRAM, HENRY LAW . . .	97, Gresham Street, E.C.
550	1879, Nov. 24	JESSETT, CHARLES	62, Old Broad Street, E.C.
964	1883, May 25	*JONES, HENRY ARTHUR . . .	53, Maida Vale, W.
673	1881, Dec. 19	JONES, THOMAS	3, Old Palace Yard, S.W.
963	1883, May 25	*¶JOHNSON, HENRY	37, Walbrook, E.C.
226	1870, Jan. 24	JOHNSTON, ANDREW	97, Gresham Street, E.C.
1018	1883, Dec. 17	JORDAN, GEORGE HENRY . .	16. Whitehall Place, S.W.
412	1875, Dec. 13	KAYE, JOHN EDWARD . . .	Grove Hall, Wakefield.
674	1881, Dec. 19	KEATES, WILLIAM ALLEN . .	Castle Chambers, Newport, Mon.
1163	1884, May 5	KEELING, GILBERT	2, Tokenhouse Buildings, Lothbury, E.C.
880	1883, Jan. 29	KEER, WILLIAM	80, Cheapside, E.C.
1077	1884, Jan. 28	KERR, ARTHUR HERBERT . . .	Crookham, Farnham, Surrey.
624	1881, May 16	KETTLE, FREDERICK CHARLES .	Tower Chambers, Moorgate Street, E.C.
1125	1884, Mar. 10	KING, ALFRED	15, Chalcot Crescent, Regent's Park, N.W.
852	1882, Dec. 18	KNOLLYS, EDWARD HOLDSWORTH	Fitzhead Court, near Taunton, Somerset.
853	1882, Dec. 18	KNOWLES, HENRY	Wells Green, Gloucester.
1019	1883, Dec. 17	LAWRENCE, WILLIAM ROBERT .	93, Bartholomew Road, N.W.
441	1876, Apr. 3	LEE, GEORGE CANSFIELD . .	North Eastern Railway, York.
675	1881, Dec. 19	LEONARD, HENRY HOLMES . .	202, Bishopsgate Street Without, E.C.
1143	1884, Apr. 21	LIGHTFOOT, JOHN GEORGE . .	9, Whitehall Place, S.W.
949	1883, May 21	LITTLE, WILLIAM DAVIS. . .	Middleton Stoney, Bicester, Oxon.
1164	1884, May 5	LOFTS, HENRY FAIRLAM . .	130, Mount Street, W.
854	1882, Dec. 18	LOMER, MONTAGUE FRANK . .	Southampton, Hants.
1183	1884, May 19	LOVESAY, WILLIAM	4, Frederick's Place, E.C.
1126	1884, Mar. 10	LOW, ROBERT JOHN	Cumberland Road, St. Albans, Herts.
489	1877, May 14	LUCAS, JOSEPH	11, Defoe Road, Tooting Graveney, S.W.
1204	1884, May 26	LYNCH, JAMES HENRY . . .	302, Regent Street, W.
917	1883, April 2	LYSTER, THOMAS RICE SOMERVILLE	Bedford Office, Thorney, Peterborough.

¶ Passed Fellowship Examination, 1884.

Dip. No.	*Date of Election.*	PROFESSIONAL ASSOCIATES.	
1144	1884, Apr. 21	McCallum, Peter Service .	Land Agent's Office, Midland Railway, Derby
470	1877, Jan. 15	Marriott, George Wharton .	Blankney Estate Office, Metheringham, Linc
626	1881, Nov. 14	Marshall, Lionel Hasler .	Chippenham, Wilts.
459	1876, Nov. 27	Martin, Charles William .	Quorn Place, Loughborough, Leicestershire.
512	1878, May 18	Maughan, Joseph Henry . .	9, New Street, Great Grimsby.
1145	1884, Apr. 21	Merrett, James.	9, Whitehall Place, S.W.
497	1878, Jan. 28	Meston, Joseph Fyfe . . .	20, Spring Gardens, S.W.
752	1882, Feb. 13	Milnes, Robert, Jun. . . .	Collingham House, Upper Tulse Hill, S.W.
1165	1884, May 5	*Moore, Harold Edward . .	5, Chancery Lane, W.C.
1127	1884, Mar. 10	Moss, Thomas Walter. . .	21, Doughty Street, W.C.
965	1883, May 25	*Moyes, John Helenus . . .	Downing Street, Cambridge.
1166	1884, May 5	Mylne, William John Home .	105, Earl's Court Road, Kensington, W.
856	1882, Dec. 18	Newman, Charles Henry. .	97, Gresham Street, E.C.
566	1880, Jan. 19	Newmarch, Henry Charles .	10, Lincoln's Inn Fields, W.C.
1020	1883, Dec. 17	Newton, Thomas Edwin . .	St. Peter's Street, Winchester.
335	1874, Feb. 2	Nixon, Samuel	29, Great George Street, S.W.
1128	1884, Mar. 10	Norris, Edward James . . .	9, Whitehall Place, S.W.
502	1878, Feb. 11	Norris, Walter Henry . .	St. Andrew's, Watford, Herts.
676	1881, Dec. 19	Nottage, William Griggs . .	High Street, Windsor.
1098	1884, Feb. 11	Owen, Thomas Henry . . .	Haverfordwest, Pembrokeshire.
781	1882, Mar. 13	Page, Thomas Gowland . .	57, Coleman Street, E.C.
567	1088, Jan. 19	Parker, Cecil Thomas, The Hon. . . . . *(Professional Associate of Council)*	Eccleston, Chester.
628	1881, Dec. 5	Parkin, John Robert . . .	Idridgehay, near Derby.
966	1883, May 25	*Pain, James	Borough, Micheldever, Hants.
957	1883, May 25	Parsons, Robert Maurice Peters	Misterton, Crewkerne, Somerset.
967	1883, May 25	*Paull, Alan	50, Highgate Road, N.
402	1875, May 10	Payne, William Percy . . .	Holmesdale, The Park, Nottingham.
285	1872, Nov. 11	Payne, William Seth Robert	9, Rood Lane, E.C.
857	1882, Dec. 18	Peace, Alfred Lindley . .	Thorne, Doncaster.
1146	1884, Apr. 21	Pearce, Frederick William .	9, Whitehall Place, S.W.
1167	1884, May 5	Pearce, William John . .	4, Frederick's Place, E.C.
1184	1884, May 19	Perrers, Harry Wilson . .	92, Lewisham Road, S.E.
216	1869, Dec. 6	Petre Henry William, The Hon.	Springfield, Chelmsford, Essex.
1078	1884, Jan. 28	*Petre, Robert George . .	9, Whitehall Place, S.W.
1021	1883, Dec. 17	Pewtress, Herbert Wilmshurst	63, Finsbury Pavement, E.C.
1129	1884, Mar. 10	Phillips, George Cawkwell .	Mildmay Road, Chelmsford, Essex.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	
1079	1884, Jan. 28	PHILLIPS, JOHN HENRY . . .	130, Mount Street, Berkeley Square, W.
968	1883, May 25	*PILDITCH, PHILIP EDWARD . .	17, Parliament Street, S.W.
367	1875, Jan. 4	PLEDGER, JOSEPH AUGUSTUS .	Boreham Lodge, Chelmsford.
1022	1883, Dec. 17	POWELL, HUBERT JOHN . . .	St. Swithin's, Lewes, Sussex.
1205	1884, May 26	PRICE, THOMAS WILLIAM . .	75, Kent House Road, Sydenham, S.E.
1099	1884, Feb. 11	PRIDHAM, JOHN LAWRENCE . .	Blackmore Grange, Upton-on-Severn, Worcester.
1080	1884, Jan. 28	PURCHASE, EDWARD KEYNES .	Mansion House Chambers, 11, Queen Victoria Street, E,C.
929	1883, April 16	REID, FRANCIS	Bucksford House, Ashford, Kent.
801	1882, Apr. 24	REX, CHARLES WILLIAM . .	311, Kentish Town Road, N.W.
802	1882, Apr. 24	REX, FRANCIS HERBERT . .	311, Kentish Town Road, N.W.
881	1883, Jan. 29	RIGDEN, CHARLES FURNER . .	15, Parliament Street, S.W.
423	1876, Jan. 24	ROBERTS, CHARLES	3, Upper Montague Street, Russell Square, W.C.
753	1882, Feb. 13	ROBERTS, CHARLES GORDON .	42, New Broad Street, E.C.
754	1882, Feb. 13	ROBEY, ROBERT	Oaklands, East Tytherley, near Romsey, Hants.
725	1882, Jan. 30	ROBINSON, JAMES THOMAS . .	11, Waterloo Place, S.W.
803	1882, Apr. 24	ROBINSON, MARTIN CATLIN . .	66, Cannon Street, E.C.
969	1883, May 25	*††¶ROLLESTON, WILLIAM GUSTAVUS STANHOPE	Grey Friars, Leicester.
980	1883, Nov. 12	ROPER, WILLIAM	1, Lansdowne Place, Mount Pleasant Road, Tunbridge Wells.
1130	1884, Mar. 10	ROSE, EDWARD JOSEPH . . .	48, Broad Street, Oxford.
1081	1884, Jan. 28	ROSS, DAVID JAMES	Surveyors' Office, Guildhall, E.C.
940	1883, April 30	ROWLANDSON, CHRISTOPHER .	The College, Durham.
970	1883, May 25	*RUNDLE, EDWARD COLLINS . .	Bedford Office, Tavistock, Devon.
1023	1883, Dec. 17	RUNTZ, ERNEST AUGUSTUS . .	22, Moorgate Street, E.C.
1206	1884, May 26	RUSSELL, JAMES ELGAR. . .	7, Camden Villas, Tubb's Hill, Sevenoaks, Kent.
909	1883, Feb. 26	RYDE, CHARLES BERTRAM . .	29, Great George Street, S.W.
1024	1883, Dec. 17	SABIN, JOSEPH HENRY . . .	16, Whitehall Place, S.W.
971	1883, May 25	*SATCHELL, CHARLES. . . .	Allen, Anderson, & Co., Alexandria, Egypt.
1207	1884, May 26	SAUNDERS, FRANCIS SIDNEY .	Beverley, Nightingale Lane, Clapham Common, S.W.
1147	1884, Apr. 21	SAUNDERS, SAMUEL BROWN. .	3, Vine Terrace, York Road, S.E.
782	1882, Mar. 13	SAVILL, ALFRED, JUN. . . .	3, St. Helen's Place, E.C.
1148	1884, Apr. 21	SCARLETT, HARRY	Downland, Uckfield, Sussex.
867	1883, Jan. 15	SCAMMELL, THOMAS	34, Corn Street, Bristol.
755	1882, Feb. 13	SCRIVEN, CHARLES HERBERT .	Oakley House, Scole, Norfolk.
572	1880, Feb. 16	SEXBY, JOHN JAMES	Metropolitan Board of Works, Spring Gardens, S.W.
823	1882, Nov. 13	SEYMOUR, RICHARD ARTHUR HAMILTON	Preston Hall Farm, Aylesford, Kent.

† Institution Prizeman, 1883. ¶ Passed Fellowship Examination, 1884.

Dip. No.	*Date of Election.*	PROFESSIONAL ASSOCIATES.	
1049	1884, Jan. 14	SHACKLE, EDWARD NEILD . .	Botwell Lodge, Hayes, Middlesex.
950	1883, May 21	SHAW, JOHN, Jun.	The College, All Saints', Derby.
1149	1884, Apr. 21	SHERRY, NATHANIEL	49, Fenchurch Street, E.C.
706	1882, Jan. 16	SHERWIN, JOSEPH HENRY . .	16, Whitehall Place, S.W.
811	1882, May 8	SIMMONS, CHARLES FRANKLIN .	Basingstoke, Hants; and Henley-on-Thame
824	1882, Dec. 4	SIMMONS, WILLIAM ANKER .	Henley-on-Thames.
1082	1884, Jan. 28	SKEWIS, EDWIN	3, St. Helen's Place, E.C.
858	1882, Dec. 18	SKINGLE, ALFRED	5, Lancaster Place, W.C.
1050	1884, Jan. 14	SLADE, ISAAC	54, Cannon Street, E.C.
538	1879, Mar. 17	SMITH, GEORGE CECIL . . .	16, Whitehall Place, S.W.
99	1868, Jul. 27	SMITH, HERBERT EDMUND . .	Darlington, Durham.
804	1882, Apr. 24	SMITH, REGINALD W. . . .	1, Temple Row West, Birmingham.
894	1883, Feb. 12	SMITH, WHEATER	28, Edinburgh Street, Bradford.
708	1882, Jan. 16	SMITH, WILLIAM CHARLES HENRY ALSTON	25, Cannon Street, Birmingham.
152	1868, Nov. 9	SMYTH, EDWARD	9, Whitehall Place; and 52, Wiltshire I Brixton, S.W.
868	1883, Jan. 15	STACEY, WILLIAM	80, Cheapside, E.C.
911	1883, Mar. 12	STENNING, PERCY HAINES . .	121, Cannon Street, E.C.
710	1882, Jan. 16	STEVENSON, FREDERICK J. . .	4, Frederick's Place, E.C.
828	1882, Dec. 4	STOWER, JOSEPH	5, Lancaster Place, W.C.
438	1876, Mar. 20	ST. QUINTIN, RICHARD SAMUEL	37, Threadneedle Street, E.C.
415	1875, Dec. 13	STRUTT, EDWARD GERALD, THE HON.	Terling Place, Witham, Essex.
756	1882, Feb. 13	SWINSCOW, HAROLD EDWIN . .	2, Streatham Hill, S.W.
1115	1884, Feb. 25	TANNER, WILLIAM	2, Bridge Street, Newport, Monmouthshire.
771	1882, Feb. 27	TAPP, ARTHUR	Shortlands, Kent.
805	1882, Apr. 24	TARLETON, ROGER	2, Bennett's Hill, Birmingham.
677	1881, Dec. 19	*†¶TARRANT, WALTER . . .	Oldfield Lodge, Bath.
1025	1883, Dec. 17	TAYLOR, EDWARD SYDNEY . .	Aberystwyth, Wales.
212	1869, Jul. 26	TAYLOR, GEORGE	Hillside House, Turner's Hill, Crawley, Sus and 17, Abchurch Lane, E.C.
678	1881, Dec. 19	TAYLOR, JOHN WILLIAM . . .	33, Westgate Road, Newcastle-upon-Tyne.
1026	1883, Dec. 17	TAYLOR, MATHEW	Northchapel, Petworth, Sussex.
859	1882, Dec. 18	TEWSON, EDWARD ARTHUR . .	80, Cheapside, E.C.
806	1882, Apr. 24	THEOBALD, HENRY	1, Deanery Road, Romford Road, Stratford, I
1027	1883, Dec. 17	THOMPSON, ALFRED	Estate Department, South Eastern Rail London Bridge, S.E.
1185	1884, May 19	THOMPSON, WILLIAM	12, St. Thomas Road, Finsbury Park, N.
869	1883, Jan. 15	THORNTON, WILLIAM HENRY .	Castle Keep, Reigate, Surrey, and The Surve General's Department, Ceylon.
757	1882, Feb. 13	THORPE, CHRISTOPHER . . .	Cutthorpe Hall, Chesterfield.

† Institution Prizeman, 1881. ¶ Passed Fellowship Examination, 1883.

Dip. No.	*Date of Election.*	PROFESSIONAL ASSOCIATES.	
1100	1884, Feb. 11	THURGOOD, ERNEST CHARLES .	8, Clifford's Inn, E.C.
591	1880, Dec. 13	THURNALL, JOHN EDWARD . .	Royston, Herts.
972	1883, May 25	*‡TREADWELL, HENRY JOHN. .	5, Agar Street, Strand, W.C.
592	1880, Dec. 13	TROLLOPE, HENRY CHARLES .	Elmfield, Streatham, S.W.
1131	1884, Mar. 10	TRUMPER, JOHN ALFRED. . .	9, Whitehall Place, S.W.
1051	1884, Jan. 14	TUDOR, COLIN AUGUSTUS BUCHANAN	6, Banks Terrace, Goole, Yorkshire.
1052	1884, Jan. 14	TUDOR, EDWARD CHARLES BUCHANAN	6, Banks Terrace, Goole, Yorkshire.
1168	1884, May 5	UDNY, AUGUSTUS CHARLES . .	35, Duke Street, Brighton.
594	1880, Dec. 13	VIGERS, MARTIN	52, Queen Victoria Street, E.C.
1208	1884, May 26	VIGERS, SIDNEY	18, Abingdon Street, S.W.
535	1879, Mai 3	WAKEFIELD, GODFREY . . .	40, Chancery Lane, W.C.
576	1880, Mar. 1	WALKER, LEON VICTOR . . .	40, Chancery Lane, W.C.
1028	1883, Dec. 17	WALLIS, JOHN DAVID . . .	3, Old Palace Yard, S.W.
1029	1883, Dec. 17	WARD, GEORGE	2, Lancaster Place, W.C.
1030	1883, Dec. 17	WATERER, CLARENCE . . .	Dover House, Chertsey, Surrey.
758	1882, Feb. 13	WATERS, WILLIAM RICHARD .	Care of J. C. Waters, The Gas Company, Horseferry Road, S.W.
1101	1884, Feb. 11	WATKINS, ROBERT ARUNDEL .	Castle Combe, Chippenham.
951	1883, May 21	WATNEY, WALTER DANIEL . .	9, Whitehall Place, S.W.
679	1881, Dec. 19	*WEBB, JONAS MARSHALL . .	7, Prince's Street, Hanover Square, W.
1031	1883, Dec. 17	WELLS, EDWARD OGBOURN . .	9, Whitehall Place, S.W.
1169	1884, May 5	WELLS, WILLIAM HOWLEY . .	Estate Office, Evershot, Dorset.
930	1883, April 16	WESTON, GEORGE	20, Oakington Road, St. Peter's Park, Paddington, W.
941	1883, April 30	WESTON, JOSEPH AURELIUS. .	83, High Street, Bedford.
860	1882, Dec. 18	WILCOCKS, FREDERICK C. . .	12, Netherwood Road, West Kensington Park, W.
1170	1884, May 5	WILES, WILLIAM.	1, Great Winchester Street, E.C.
378	1875, Jan. 18	WILLIAMS, LEONARD JAMES .	6, Furnival's Inn, E.C.
861	1882, Dec. 18	WILLIAMS, TOM	35, St. Julian's Road, Kilburn.
568	1880, Jan. 19	WILLIAMS, WILLIAM HERBERT .	Llandaff, Glamorganshire.
442	1876, Apr. 3	WILLIAMS, WILLIAM WELSBY .	Farnham, Surrey.
807	1882, Apr. 24	WILLMOT, JOHN	6, Waterloo Street, Birmingham.
1083	1884, Jan. 28	WILLOUGHBY, CHARLES WILLIAM	22, Chancery Lane, W.C.
1150	1884, Apr. 21	WINDER, GEORGE ALEXANDER .	Escot Estate Office, Fairmile, Ottery St. Mary.
882	1883, Jan. 29	WOLFE, WALTER JAMES . .	41, Chetwynd Road, Dartmouth Park, N.W.

‡ **Driver Prize, 1883.**

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	
539	1879, Mar. 17	WOOD, HENRY	97, Gresham Street, E.C.
711	1882, Jan. 16	WOODWARD, WILLIAM . . .	13, Granville Square, W.C.
680	1881, Dec. 19	WREATHALL, ROBERT T. . .	30, Walbrook, E.C.
595	1880, Dec. 13	WRIGHT, THOMAS HAWKINS. .	Grendon Hall, Northampton.
1151	1884, Apr. 21	WYAND, BENJAMIN JOHN . .	11, Queen Victoria Street, E.C.
1132	1884, Mar. 10	YEATES, JOHN	80, Cheapside, E.C.
599	1881, Jan. 10	YOUNG, ANDREW	5, Bell Yard, Temple Bar, E.C.
524	1878, Dec. 9	YOUNG, MORGAN HENRY . .	6, John Street, Bedford Row, W.C.

Associates.

Date of Election.		
1876, Mar. 20	ACLAND, SIR THOMAS DYKE, BART., M.P.	Killerton, Exeter.
1882, Mar. 27	ANDERSON, CHARLES HENRY .	9, King's Bench Walk, Temple.
1880, Dec. 13	BANKES, JOHN ELDON . . .	4, Elm Court, Temple.
1868, Jul. 27	BARRY, JOHN WOLFE . . .	23, Delahay Street, Westminster, S.W.
1875, Dec. 13	BATTEN, JOHN WINTERBOTHAM	3, Harcourt Buildings, Temple.
1876, Dec. 18	BAZALGETTE, CHARLES NORMAN	1, Essex Court, Temple.
1879, Feb. 3	BEALE, JAMES SAMUEL . . .	28, Great George Street, S.W.
1869, Feb. 22	BIDDER, GEORGE PARKER, Q.C.	3, Paper Buildings, Temple.
1875, Feb. 1	BIRCH, ROBERT WILLIAM PEREGRINE	2, Westminster Chambers, S.W.
1884, May 19	BOLTON, WILLIAM HENRY . .	34, Stanhope Gardens, W.
1868, Jun. 23	BRAMWELL, SIR FREDK. JOSEPH, F.R.S. (*Associate of Council*)	5, Great George Street, Westminster, S.W.
1884, Feb. 11	BUND, JOHN W. WILLIS. . .	3, Stone Buildings, Lincoln's Inn, W.C.
1869, Jul. 26	CARLISLE, WILLIAM THOMAS .	8, New Square, Lincoln's Inn, W.C.
1879, Jan. 6	CASSERLEY, SAMUEL WILLIAM .	7, Crown Office Row, Temple.
1871, Feb. 13	CASTLE, EDWARD JAMES . . .	8, King's Bench Walk, Temple.
1876, Nov. 13	CLARKE, DANIEL	Easton Street, High Wycombe, Bucks.
1883, Dec. 17	CLARKE, EDWARD, Q.C., M.P. .	3, Garden Court, Temple.
1883, Dec. 17	CLODE, WALTER	3, Harcourt Buildings, Temple.

Date of Election.	ASSOCIATES.	
1882, Mar. 27	DAY, WILLIAM ANSELL . . .	18, New Bridge Street, Blackfriars, S.E.
1883, April 16	DETHRIDGE, FRANK	Vestry Hall, Harrow Road, Paddington, W.
1883, April 30	DRUCE, SAMUEL BENJAMIN LARGE	2, Old Buildings, Lincoln's Inn, W.C.
1869, Feb. 22	FOWLER, JOHN	2, Queen Square Place, S.W.
1878, Feb. 11	FREEMAN, GEORGE MALLOWS .	11, King's Bench Walk, Temple.
1878, Mar. 11	FRESHFIELD, EDWIN . . .	5, Bank Buildings, E.C.
1876, Mar. 20	FRESHFIELD, WILLIAM DAWES .	5, Bank Buildings, E.C.
1877, Mar. 12	FULTON, HAMILTON	Salisbury, Wilts.
1884, Jan. 14	FUNG-YEE	The Chinese Legation, Portland Place, W.
1876, Dec. 18	GEDGE, SYDNEY	1, Old Palace Yard, S.W.
1879, Apr. 28	GEPP, CHARLES BRAMSTON OSBORNE	Chelmsford, Essex.
1874, Feb. 16	GOLDNEY, GABRIEL PRIOR . .	3, Essex Court, Temple.
1869, Jan. 11	GRANTHAM, RICHARD BOXALL .	22, Whitehall Place, S.W.
1874, Jan. 5	GRANTHAM, RICHARD FUGE . .	22, Whitehall Place, S.W.
1881, Mar. 21	GRANTHAM, WILLIAM, Q.C., M.P.	6, Crown Office Row, Temple.
1881, Dec. 19	GROVES, WILLIAM	28, Great George Street, S.W.
1880, Dec. 18	GULLY, WILLIAM COURT, Q.C. .	Farrar's Buildings, Temple.
1881, Dec. 19	HALSEY, EDWARD JOSEPH . .	Pirbright, Surrey.
1882, Mar. 27	HAMILTON, HENRY BEST HANS .	1, Brick Court, Temple.
1884, May 5	HAMOND, THOMAS ASTLEY HORACE	56, Lincoln's Inn Fields, W.C.
1884, Apr. 21	HARRIS, RICHARD READER . .	1, Temple Gardens, Temple.
1881, Dec. 19	HEAD, JOHN MERRICK . . .	Reigate, Surrey.
1875, Dec. 18	HIGGIN, WILLIAM HOUSMAN, Q.C.	4, St. James' Square, Manchester.
1875, Jan. 4	HILL, ALEXANDER STAVELEY, Q.C., M.P.	3, Garden Court, Temple; and Oxley Manor, Stafford.
1880, Dec. 18	JAMES, SIR HENRY, Q.C., M.P..	1, New Court, Temple.
1873, April 21	KING, WILLIAM	Gas Office, Duke Street, Liverpool.
1884, Jan. 28	KINGSFORD, DOUGLAS . . .	2, Brick Court, Temple.
1883, Nov. 12	KIRBY, ALFRED OCTAVIUS . .	1, Old Palace Yard, S.W.
1874, Feb. 2	LEDGARD, FREDERICK THOMAS DURELL, Q.C.	1, Temple Gardens, Temple.
1874, Feb. 16	LITTLER, RALPH DANIEL MAKINSON, Q.C.	4, Temple Gardens, Temple.

Date of Election.	ASSOCIATES.	
1879, Dec. 8	LLOYD, EYRE	3, Sergeant's Inn, E.C.
1869, Mar. 8	LOTT, JOSEPH	19, Great George Street, S.W.
1884, Feb. 11	LOUCH, FRANCIS QUEKETT . .	Newbury, Berks.
1874, Feb. 16	MARRIOTT, WILLIAM THACKERAY, Q.C., M.P.	6, Crown Office Row, Temple.
1879, Jan. 6	MEYSEY-THOMPSON, ALBERT CHILDERS	41, Parliament Street, S.W.; and 1, King's Bench Walk, Temple.
1875, Jan. 4	MICHAEL, WILLIAM HENRY, Q.C.	38, Parliament Street, S.W.
1881, Feb. 7	MOSLEY, TONMAN	Bangors, Iver, Uxbridge.
1882, Dec. 18	MUNTON, FRANCIS KERRIDGE .	95A, Queen Victoria Street, E.C.
1876, Apr. 24	PARKER, FREDERICK SEARLE .	17, Bedford Row, W.C.
1869, Feb. 22	PHILBRICK, FREDK. ADOLPHUS, Q.C.	Lamb Building, Temple.
1884, Feb. 11	POPE, SAMUEL, Q.C.	38, Parliament Street, S.W.
1869, Apr. 5	PRICE-WILLIAMS, RICHARD . .	38, Parliament Street, S.W.
1871, Feb. 27	QUICK, JOSEPH, JUN. . . .	29, Great George Street, S.W.
1868, Nov. 9	REES, JOHN CHARLES . . .	13, Great George Street, S.W.
1882, Jan. 16	RIGG, HERBERT ADDINGTON .	9, King's Bench Walk, Temple.
1875, Nov. 8	RYDE, EDWARD HARROW . .	Cranley House, Fontenoy Road, Balham, S.W.
1883, April 2	RYDE, WALTER CRANLEY . .	1, Brick Court, Temple.
1882, Mar. 27	SHEARMAN, JOHN.	2 & 3, New Inn, Strand, W.C.
1879, Apr. 28	SLADEN, ST. BARBE	1, Delahay Street, Westminster, S.W.
1878, Apr. 8	SMITH, JOHN SMALMAN . . .	3, Hare Court, Temple.
1879, Apr. 28	SMITH, LUMLEY, Q.C. . . . (*Associate of Council*)	4, Paper Buildings, Temple.
1884, Jan 14	STATHAM, WILLIAM ARNOLD .	12, King's Bench Walk, Temple.
1882, Jan. 16	STEPHENS, PEMBROKE S., Q.C. .	1, Plowden Buildings, Temple.
1881, Jan. 24	STEVENSON, GEORGE WILSON .	38, Parliament Street, S.W.
1875, Jan. 4	STRUTT, FREDERICK, THE HON.	88, Eaton Square; and Milford House, Derby.
1877, Dec. 10	SUTTON, HENRY	Farrar's Building, Temple.
1880, Dec. 13	THOMAS, HUBERT	Watford, Herts.
1868, Jul. 20	TROLLOPE, GEORGE FRANCIS .	15, Parliament Street, Westminster, S.W.
1880, Jan. 5	TURNER, FRANCIS	5, Pump Court, Temple.
1876, Nov. 27	WEBSTER, RICHARD EVERARD, Q.C.,	2, Pump Court, Temple.

Date of Election.	ASSOCIATES.	
1884, May 26	Wells, Alfred Dodd . . .	Sotwell Hill, Wallingford, Berks.
1871, Feb. 13	White, Frederick Meadows, Q.C.,	4, Paper Buildings, Temple.
1873, Jan. 27	White, Thomas Jennings . .	8, Whitehall Place, S.W.
1876, Dec. 18	Will, John Shiress, Q.C. .	3, Pump Court, Temple.
1875, May 15	Winckworth, Lewis . . .	31, Abingdon Street, Westminster, S.W.
1870, Jan. 10	Wing, Thomas Twining . .	17, Woburn Square, W.C.
1882, Dec. 18	Woolf, Sidney	7, King's Bench Walk, Temple.
1876, Apr. 24	Wyatt, Robert	Lower House, Thursley, Godalming, Surrey.

Students.

¶ Passed Preliminary Examination, 1882. ° Passed Preliminary Examination, 1884.
† Passed Preliminary Examination, 1883. § Passed Proficiency Examination, 1884.

Date of Admission.		
1884, Feb. 11	°Adkin, Benaiah Whitley . .	Caldicote Lodge, Wantage, Berks.
1883, Feb. 12	†Arnott, John	Woodbridge, Suffolk.
1883, Feb. 12	§Barratt, Harry.	Middle Street, Stourbridge, Worcestershire.
1883, Feb. 12	§Benson, Robert Alan . . .	11, Caledonia Place, Clifton.
1883, Feb. 12	§Birch, Walter de Hoghton .	Harford House, Chew Magna, Bristol.
1882, Feb. 13	¶Bousfield, Edwin Vaughan Davenport	13, Emperor's Gate, South Kensington, S.W.
1882, Feb. 13	¶Bousfield, William Gladstone Richings. . . .	13, Emperor's Gate, South Kensington, S.W.
1882, Feb. 13	¶Bryans, John George . . .	28, South Street, Sunderland.
1882, Feb. 13	¶Brymer, Arthur	5, Agar Street, Strand, W.C.
1883, Feb. 12	†Buck, Herbert Wilson . .	The Stalls, St. John's, Worcester.
1883, Nov. 12	Buckland, Alfred Virgoe. .	66, Cannon Street, E.C.
1884, Feb. 11	°Burrows, Alfred John, Jun. .	Pluckley, near Ashford, Kent.
1884, Feb 11	°Callendar, William Jackson .	Saffron Walden, Essex.
1883, Feb. 12	†Carter, Frank Wellington .	Salisbury.
1883 Feb. 12	†Clark, Henry Copley. . .	97, High Street, Dorking.
1882, Feb. 13	¶Clarke, Stanley	132, Westbourne Terrace, Hyde Park, W.
1884, Feb 11	°Cross, Arnould Charles Martin	Chestnut Lodge, Old Ford Road, Bow.
1882 Feb. 13	¶Cross, William Thomas Alfred	53, Charing Cross, S.W.

Date of Admission.	STUDENTS.	
1884, Feb. 11	°Dalton, Seymour Grant . .	Shanks House, Wincanton, Somerset.
1882, Feb. 13	¶Drew, Henry Alban . . .	Peamore, near Exeter.
1883, Feb. 12	§Dunning, Bernard Simon . .	2, Warwick Square, S.W.
1884, Feb. 11	°Eve, Herbert Trustram . .	Silsoe, Ampthill, Beds.
1884, Feb. 11	°Eve, William Harold . . .	10, Union Court, Old Broad Street, E.C.
1883, Feb. 12	†Glass, Sydney Newton . .	21, Beaconsfield Road, Ealing, W.
1884, Feb. 11	°Goodwin, Edward	Canton Court, Wateringbury, Kent.
1883, Feb. 12	‖§Hall, William Timothy . .	Vinter's Road, Maidstone, Kent.
1884, Feb. 11	°Halton, Harry Russell . .	3, Carleton Road, Tufnell Park, N.
1883, Feb. 12	†Harding, Sidney Pryce . .	St. Peter's Street, St. Alban's, Herts.
1884, Feb. 11	°Hay, Mountiford Henry . .	82, Southampton Row, W.C.
1884, Feb 11	°Homan, Hubert Franklin .	The New Friars, Boley Hill, Rochester.
1884, Feb. 11	°Hussey, John Walton . . .	Beechcroft, St. David's, Exeter.
1884, Feb. 11	°Jonas, Harry Marshall . .	27, Market Hill, Cambridge.
1883, Feb. 12	†Jull, William Vincent . .	Wrotham Lodge, Streatham Hill, S.W.
1884, Feb 11	°Junkison, Albion	Lyndhurst Lodge, Whitehorse Lane, South Norwood.
1884, Feb. 11	°King, William Isaac . . .	The Grange, Highgate, N.
1884, Feb. 11	°Lansdowne, Harold Walker .	The Briars, Spencer Hill, Wimbledon, S.W.
1884, Feb 11	°Lowe, Charles Robert . .	Surveyor's Department, Vestry Hall, Haverstock Hill, N.W.
1883, Feb. 12	§Mead, John Henry	Balcombe Rectory, Hayward's Heath.
1882, Feb. 13	§Mixer, Edward	80, Cheapside, E.C.
1884, Feb. 11	°Perkins, Walter Frank . .	Portswood House, Southampton.
1884, Feb. 11	°Perks, Sydney	Soho Lodge, Wandsworth Common, S.W.
1884, Feb. 11	°Phillips, William Dearlove .	12, St. Peter's Street, St. Alban's, Herts.
1884, Feb. 11	°Physick, Walter Frederick .	136, Marylebone Road, N.W.
1884, Feb 11	°Puckridge, Percival Martin .	71, Berner's Street, W.

‖ Institution Prizeman, 1884.

Date of Admission.	STUDENTS.	
1883, Feb. 12	§Selby, John Baseley . . .	30, Lincoln's Inn Fields, W.C.
1883, Feb. 12	†Tiffen, John Henry . . .	4, Grosvenor Terrace, Kingston-upon Hull.
1884, Feb. 11	°Turner, Percy	7, Lower Brook Street, Ipswich.
1884, Feb. 11	°Vale, Henry	Hardebury, near Kidderminster.
1884, Feb. 11	°Vowler, Guillim Reginald .	Penheale Manor, Launceston, Cornwall.
1884, Feb. 11	°Warton, Wilfred	13, North Audley Street, W.
1883, Feb. 12	†Watson, James Bruce . . .	Shirburn, Tetsworth, Oxon.
1884, Feb. 11	°Watson, John, Jun. . . .	Shirburn, Tetsworth, Oxon.
1884, Feb. 11	°Whalley, Frederick Herbert	Ashfield House, Chester.
1883, Feb. 12	§Willard, Thomas . . .	Estate Office, London & North Western Railway Euston Station, N.W.
1884, Feb. 11	°Williams, Sidney	Kelvin Lodge, Blythe Hill, Catford, S.E.
1884, Feb. 11	°Worthington, James Scott .	4, Frederick's Place, E.C.
1883, Feb. 12	†Wraight, Percival	Le Mars, Iowa, United States, America.
1882, Nov. 13	Wright, Charles William .	Wollaton, Nottingham.

To ensure the regular transmission of the Papers and Notices, it is particularly requested that any changes of address be communicated at once to the Secretary.